INTEGRATION OF CERVICAL CANCER PREVENTION INTO OTHER REPRODUCTIVE HEALTH SERVICES: FACTORS INFLUENCING DISSEMINATION AND ADOPTION IN THE GREATER ACCRA REGION, GHANA

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DECLARATION

I, Helena Maame Ama Frempong, declare that this Research Report is my own, unaided work. It is being submitted for the Degree of MSc Epidemiology (Implementation Science) at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.

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(Helena Maame Ama Frempong)

15 day of October 2021 in Accra

DEDICATION

To God, His grace and faithfulness have brought me thus far.

In loving memory of my late father, Mr Joseph Augustus Kwame Frempong, you always asked why I had not returned to school for further studies: Dad, I finally did it!

In loving memory of Mrs Vida Marilyn Kwansa, my bonus mum, you started this journey with me, encouraging me every step of the way. Mum Vida, I finally got to the finish line.

ABSTRACT

INTRODUCTION: Cervical cancer is one of the most common cancers and the leading cause of cancer-related deaths in Ghana. There has been a national policy for the screening and treatment of cervical cancer in Ghana since 2005. However, coverage remains low, and the burden of the disease is increasing. There is a renewed effort to improve coverage by integrating cervical cancer screening and treatment into other reproductive services (ICP_RHS) by health facilities; however, health facilities have not adopted this innovation.

AIM: To identify, from the perspective of health providers and managers, the barriers and facilitators of a) dissemination of the integration approach from policy level to implementers, and b) adoption by implementers of the integration of cervical cancer screening and treatment into reproductive health services at health facilities in the Greater Accra Region, Ghana.

METHOD: This exploratory qualitative study was carried out in the Greater Accra Region, Ghana. Twenty-six semi-structured interviews were conducted with district officers, facility leaders and healthcare providers (doctors, nurses, and midwives). The conceptual framework that guided data collection and analysis was the consolidated framework for implementation research. Data were analysed using framework analysis.

RESULTS: This study identified that facilitators of dissemination, among others, included the existence of change agents, effective communication processes and channels and good leadership and supportive management style and skills. Compatibility and perceived simplicity of the integrated approach, the enactment of a national policy or directive, perceived need and demand for ICP_RHS and availability of resources, among others, may influence organizational adoption. Factors that may affect individual adoption included training and coaching, access to protocol and guidelines and provider perceptions and beliefs.

CONCLUSION: This study highlights the characteristics of the innovation, organization and individual providers that may influence dissemination and adoption of the integrated cervical screening and treatment innovation. Knowledge and understanding of these factors may be used as a guide in identifying strategies to counter barriers and enable effective dissemination and adoption of the innovation.

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LIST OF ACRONYMS AND ABBREVIATIONS

CC	Cervical Cancer
CFIR	Consolidated Framework for Implementation Research
CHPS	Community-based Health Planning and Services
DHMT	District Health Management Team
GAR	Greater Accra Region
HIV	Human Immunodeficiency Virus
HPV	Human Papillomavirus
ICP_RHS	Integration of Cervical Cancer Prevention into Reproductive Health Services
IR	Implementation Research
LEEP	Loop Electrosurgical Excision Procedure
OL	Organizational Level
PC	Precancer
PI	Principal Investigator
PL	Provider Level
RHS	Reproductive Health Services
SL	System Level
TB	Tuberculosis
VIA	Visual Inspection with Acetic Acid
WHO	World Health Organization

CHAPTER ONE: INTRODUCTION

1.1. Overview

This study sought to identify, from the perspective of health providers and managers, the barriers to and facilitators of the dissemination and adoption of the integration of cervical cancer screening and treatment of precancerous lesions into other reproductive health services (ICP_RHS) at hospitals in the Greater Accra Region, Ghana using qualitative methods. Participants included districts officers, facility leaders, nurses/midwives, and doctors.

This chapter begins with the background and the context of the study, followed by the literature review, problem statement, justification of the study, project aim and specific objectives. The chapter concludes with the conceptual framework that guided the study.

1.2. BACKGROUND

Cervical cancer is the fourth most prevalent cancer globally and the second most common in females who live in low- and middle-income countries or Sub-Saharan African regions (1). In 2018, it was estimated that 569,847 new cases of cervical cancer globally constituted 6.6% of all cancers that affect females. Approximately 90% of those who died from this disease lived in low- and middle-income countries (1).

In Ghana, cervical cancer is one of the most common cancers and the leading cause of cancer-related deaths in females (2), whose cumulative risk of dying (3) is three times higher than the global figure. In 2018, Ghana recorded 3,151 new cases representing 21.3% (the 2nd highest) of all female cancers with the age-standardised incidence of 32.9 per 100 000 cases, and cervical cancer was the second-leading cause of all cancer-related deaths in the country, with 2,119 recorded deaths (3).

However, cervical cancer is preventable because it develops slowly after the initial human papillomavirus (HPV) infection. The persistent infection with high-risk types of HPV progresses into precancerous cervical lesions, which advance to invasive cervical cancer if not treated (3). All

sexually active females are at risk, and even more at risk are HIV-infected women (3). Since cervical cancer develops slowly, countries can avert new cervical cancer deaths if effective cervix screening and precancer treatment interventions are made available and implemented to detect precancerous lesions early in all females at risk (3, 4). Many low- and middle-income countries, including Ghana, have established cervical screening and treatment services (5).

Ghana's first policy on cervical cancer prevention was developed in 2005 and was embedded in the "National Reproductive Health Policy" (2). The policy recommends cervical screening with visual inspection with acetic acid (VIA) for women between the ages of 25 and 45 years and the Papanicolaou (Pap) smear for women starting at age 45, followed by treatment of precancerous lesions with cryotherapy for screen-positive women (2). Pap smear and VIA screening services are available in Ghana's healthcare facilities (6-8); however, screening coverage remains low at 2.8% (3).

In 2015, Ghana launched a national strategy for cancer control, and according to the strategy document, there will be the continued use of the two screening and treatment methods mentioned above (2). In this strategy document, one of the interventions stated that health care facilities would integrate screening and treatment into existing health systems such as the reproductive health programmes (family planning and STI services) (2). The integration into existing health systems is a new approach that aims to improve and stimulate the accessibility and uptake of cervical cancer prevention services, increasing coverage (9).

This new approach – the integration of screening into other reproductive services – is a well-recognised strategy that has been implemented in some countries in Africa and has proven to increase screening coverage (9). However, health facilities doing screening and precancer treatment in Ghana are yet to adopt and implement this integration intervention (December 2019 conversation with Regional Director of Health at Accra Regional Health Directorate; unreferenced). It is crucial to explore factors that may affect the pre-implementation process, consisting of the dissemination of the innovation from policy to implementer level and the decision to adopt it by implementers.

1.3. LITERATURE REVIEW

1.3.1. Search strategy

Databases searched in the process of identifying peer-reviewed articles included PubMed, Sage journals and Elsevier. A general google and google scholar search was also conducted to identify other relevant documents or reports published for conferences or seminar programmes, websites of the Ministry of Health, Ghana, Ghana Health Services and World Health Organization (WHO). The search was performed on an ongoing basis between June 2019 to March 2021. The years covered by the search were from 2004 to 2020. The following keywords were used to locate articles relevant for this study: cervical cancer, screening and treatment, integration of services, pre-cancerous lesions, implementation science, adoption, dissemination, framework analysis and CFIR. Variations of these terms with the help of Boolean connectors (AND, OR NOT) were used to ensure an exhaustive search of results.

1.3.2. Cervical Cancer Elimination

Cancer of the cervix has become a public health concern. Based on evidence, specialists in the field have proposed that countries can suppress the incidence of cervical cancer through the vaccination of young girls with the HPV vaccine and preventive screening for early detection and treatment of precancerous lesions (3). HPV vaccination works best in those who have no exposure to the virus. Hence, screening, a secondary preventive measure, is a productive way of preventing cervical cancer in older women who have already had exposure to HPV and do not qualify for the HPV vaccine (3, 10). In low- and middle-income countries, many women with cervical cancer present to health facilities in the late stages of the disease (3, 4) in large part because of the non-availability or poor implementation of screening and precancer treatment services (5).

Because it is largely preventable, the World Health Organization (WHO) in 2020 launched the global strategy to accelerate the elimination of cervical cancer as a public health problem (11). The director-general of WHO, Dr Ghebreyesus, asserts that cervical cancer can be eliminated as a public health concern using cost-effective, evidence-based interventions that include screening and treatment of precancer (11).

The global strategy to eliminate cervical cancer recommends the following elimination targets (referred to as 90-70-90) must be met by 2030 for countries to be on the path towards cervical

cancer elimination: 90% of girls fully vaccinated with HPV vaccine by age 15 years, 70% of women are screened with a high-performance test by 35 years of age and again by 45 years of age, and 90% of women identified with cervical cancer receive treatment (90% of women with precancer treated and 90% of women with invasive cancer managed) (11).

WHO has urged all countries to pursue the above targets within a national policy framework to eliminate cervical cancer. Among its strategic actions to reach target goals, WHO has recommended integrating screening and treatment services in the primary health care package. The strategy report mentions sexual and reproductive health services, human immunodeficiency virus (HIV) care and treatment clinics, antenatal care, women clinics, and school-based community outreach as entry points to reach women and girls with cervical cancer prevention interventions (11).

1.3.3. The integration of cervical screening into other reproductive health services

WHO defines integration as managing and delivering health services such that clients receive a continuum of preventive and curative services, according to their needs over time and across different levels of the health system (12). At the same time, such integration focuses on providing targeted services and or programmes that can be incorporated together to ensure and perhaps enhance collective outcomes by offering all-inclusive services (13).

Integration can occur at service delivery points, within the health system, or across sectors (14, 15). At service delivery points, integration can occur in different ways, for example, between disease-specific programmes (vertical), whereby diseases could be clinically related (HIV with TB) or non-clinically related (HIV, non-communicable diseases). Integration can also occur system-wide (horizontal) across policies and structures (12), across related disease programmes (maternal and reproductive care), and through public health and health service interventions (12, 14, 15).

Mayhew et al. (16) mention that most research on integration has been focused on integration at the point of service delivery rather than the health system in broad terms. They further established that the flexibility of workers who support each other coupled with good communication and leadership is vital for integration.

A scoping study on the integration of sexual and reproductive health with HIV services in five Sub-Saharan African countries reported challenges of such service integration, including shortages of health workers, inadequate training, and limited supervision to support integrated service delivery, which requires staff to have skills in more than one disease or area of speciality (17).

The study, however, mentioned that there is an indication to show that integrating services can improve effectiveness and efficiency in the delivery of sexual and reproductive and HIV services. The study further emphasised the need for such integration to be carefully planned, considering integration at the point of service delivery and the six health system functions, namely, governance, policy and planning, financing, health workforce organisation, service organisation, and monitoring and evaluation. (17)

Several studies suggest that the integration of cervical cancer screening with reproductive health services such as maternal health, HIV, and family planning increases the availability and uptake of screening services. Such integrated approaches are feasible, improve targeting of high-risk populations, and are efficient and cost-effective (6-9, 18).

Countries that have implemented cervical cancer screening into reproductive health services include Kenya, Tanzania, Ethiopia, Nigeria, Zimbabwe, Uganda, and Zambia (9). Kenya, Nigeria, Tanzania, Uganda, Zambia, and Zimbabwe are examples of countries that have integrated cancer of the cervix screening with family planning; a particular instance is cervical cancer screening and preventive therapy (CCS&PT). CCS&PT is an initiative through mobile outreach and fixed points with several service delivery points (either by health providers in the private sector or through non-governmental organisations) in Kenya, Nigeria, Tanzania, and Uganda(9).

Zambia has made significant strides in this regard by integrating screening and treatment of precancer with a national HIV/AIDS care and treatment program supported by the President's Emergency Plan for AIDS Relief (PEPFAR). Zambia's experience in initiation and expansion is the largest of such programmes in Africa; from 2006 to 2013, this programme has provided more than 100,000 women with screening services (7). Though initially focused on HIV seropositive women in Zambia, the proportion of HIV seronegative women, who access screening services, also increased from 22% to 38% between 2006 and 2011. (9)

Watt et al. (14), in their findings in a systematic review, mention the following factors that may affect the integration of HIV and chronic disease services within the health system: effective collaborations and coordination; good relationships (both formal and informal) between various stakeholders within the health eco-system (e.g., agencies, health providers, and patients) and within organisational teams (e.g., agencies and providers); adequate and relevant skilled personnel with high proficiency, training, and continuous operational support; supportive organisational structures and allocated resources; leadership, organisational culture, political will, and effective management; and placing patients at the core and holistically responding to their needs.

1.3.4. Dissemination and adoption of innovations

Investigating the gap between knowing about evidence-based practices or innovation (such as integrating cervical screening with other health services) and implementation of these practices or innovations into routine health care is what implementation research (IR) focuses on, with emphasis on context (19-21). Implementing new evidence-based practices has been described as a process consisting of five (5) steps: awareness, dissemination, adoption, implementation, and sustainability(22). According to the IR literature, sometimes the failure to implement innovations is because they are not adequately disseminated to implementers/providers by the policymakers or not adopted by the implementers(23, 24). Various theories have tried to explain dissemination.

The concepts of innovation dissemination and adoption have been widely explained by Roger's diffusion of innovation theory (25-27). Dissemination is defined as the active, planned, and systematic approach to distributing information and innovation materials to a targeted audience. This effort is designed and intended to make innovation or evidence-based interventions widely available and encourage widespread adoption. (25, 27, 28)

Dissemination has also been explained extensively using social marketing theory and the socio-ecological framework (25, 27, 29). Dissemination from the social marketing perspective is such that it identifies the target audience based on the information needed. Once this need is identified, information is packaged and distributed in a way that is easily accessible to the target audience(25).

Finally, from the socio-ecological perspective, there is recognition that individuals are part of a more extensive social system. This larger social system influences behaviour: hence, there is a

need to consider all the levels of influence in the dissemination process, including individual impact, organisation factors, and system factors. (27-30).

Implementation research involves studying strategies that promote – in different contexts – the systematic application of findings from research or evidence-based innovations (interventions and practices) into routine health and clinical practices to enhance the effectiveness of the innovations(20, 21). Specific strategies are usually needed to ensure successful implementation.

Implementation outcomes, which are indicators for the successful implementation of an innovation, serve as a prerequisite for achieving future desired changes in clinical or service outcomes (31). Implementation outcomes include acceptability, adoption, appropriateness, costs, feasibility, fidelity, penetration, and sustainability (31). Further, the Exploration, Preparation, Implementation, Sustainment (EPIS) framework views implementation as a process with four stages – exploration, preparation, implementation, and sustainment. In the exploration stage, adoption is considered a process. It is also an implementation outcome that occurs in the early stages of implementation(31-33)

Adoption is a vital implementation outcome because the implementation can only begin if implementers (providers) decide to adopt an innovation (25). For this study, adoption is defined as the intention, inceptive decision, or action by health workers and health facilities to learn and implement the innovation (evidence-based practice) (23, 24, 31).

The way innovation is introduced to a target audience (dissemination) can influence whether an innovation is adopted or not. These concepts (adoption and dissemination) are essential and related because the extent to which an innovation is adopted at individual provider and organisation levels impacts the successful implementation. Dissemination efforts encourage widespread adoption of evidence-based innovations (27, 29, 34).

Several factors can influence whether or not an innovation is disseminated or adopted by organisations. A published systematic review identifies some factors that influence dissemination. The review mentions technical capacity as a factor that refers to an organisation's technical resources and potential that impact the organisation's decision to adopt (27). Researchers argue that, though in-service training is a vital source of knowledge for individuals, it may be challenging to use innovations correctly without some form of technical assistance. Organisations with the

capacity to continually provide assistance such as coaching and supervision will readily adopt innovations (35).

Other factors of influence include having a specialised unit for communication, managerial attitude towards change, absorptive capacity for new knowledge and receptive context for change (27). For example, an organisation's ability to process new knowledge, link it to existing knowledge and appropriately use it (absorptive capacity) greatly influences adoption. (27). Also, a receptive context for change describes the ability of an organisation to embrace new ideas and be willing to effect change. (27)

Dreisinger et al. (36), in their study, identified individual, organisational, and intervention factors that influence dissemination; these include, to mention a few, individual factors such as buy-in from staff and leadership and sufficient resources; organisational factors such as partnership and collaborations; and policymaker/decision-maker buy-in. Some studies have made use of qualitative methods to identify possible factors influencing adoption. Most of these factors identified have been grouped into three categories: innovation characteristics (for example, innovation complexity), organisational characteristics (for example, leadership), and individual provider characteristics (such as attitude toward the innovation) (23, 24, 37).

Wisdom et al. (38), in their review of theories and constructs, identified socio-political and external influences such as government policy and regulation (which is the passing of policies, legislation, and regulations on innovation) and social networks (which is a channel through which interpersonal communication can take place) (39); organisational characteristics such as culture (an organisation that has a culture of solving problems will readily adopt to solve such issues) (38), readiness for change and absorptive capacity; individual characteristics such as personal attributes (intellectual ability, motivation, and values); and intervention/innovation characteristics such as relative advantage, compatibility, and its complexity as factors that may influence adoption.

1.4. PROBLEM STATEMENT

There has been a national policy for cervical cancer screening and treatment in Ghana since 2005; however, coverage remains low, and the burden of cervical cancer is increasing (1, 2). There are renewed efforts to improve coverage as documented in the national cancer control strategy of 2015 by integrating cervical cancer screening and treatment into existing health systems, such as

reproductive health programmes, including family planning and sexually transmitted infection (STI) services (2).

However, health facilities have not adopted the integrated cervical screening services innovation (December 2019 conversation with Regional Director of Health at Accra Regional Health Directorate; unreferenced) for which there is evidence from other Sub-Saharan African countries of its cost-effectiveness and potential to increase the uptake of cervical cancer screening and treatment (18, 40). The barriers to adopting this innovation in Ghana have not been explored but understanding them is relevant because appropriate strategies can be implemented to overcome these possible barriers to enhance its adoption and implementation.

Therefore, this study sought to explore perceived barriers and facilitators of the dissemination and adoption of the integration of cervical cancer screening and treatment into other reproductive health services from the perspective of implementers at health facilities and other relevant stakeholders in Accra, Ghana.

1.5. JUSTIFICATION

Implementation outcomes have been identified as indicators for the successful implementation of evidence-based practices (31). Adoption is one of such implementation outcomes. It has been established that the extent to which an innovation is adopted affects the success of implementation (27, 28) and how well the innovation is introduced to a target audience (dissemination) influences whether an innovation is adopted or not.

Though factors that may influence adoption and dissemination have been explored, context is vital. There is a lack of knowledge of factors that may influence the adoption and dissemination of evidence-based practices, such as the integration of reproductive health services in Africa, especially Ghana.

Cervical Cancer is a leading cause of cancer-related deaths in Ghanaian women. Women comprise 51.2% of the Ghanaian population (41) and play a critical role in sustainable development(42). Women, when healthy, can reach their maximum potential and contribute to thriving families. Women construct resilient communities and become powerful drivers of economic growth. Not

addressing a preventable disease that takes the lives of so many women yearly is unethical and deprives the nation of the contribution women make in nation-building and development.

This study is novel in this context, focused on the pre-implementation phase of an intervention. It will be necessary for policymakers and programme managers in Ghana to reach the target goals towards eliminating cervical cancer as a public health problem. Research findings on implementers' perceptions regarding factors that influence dissemination and adoption of the integration of cervical cancer screening and treatment in health facilities in Greater Accra will provide knowledge that can potentially inform effective strategies needed to improve dissemination efforts and the adoption of this intervention in health facilities in Ghana.

1.6. AIMS AND OBJECTIVES

1.6.1. Aim

To identify the barriers to and facilitators of dissemination and adoption of the integration of cervical cancer screening and treatment into other reproductive health services by health facilities in the Greater Accra Region, Ghana. These factors will be explored from the perspective of implementers, who include health care workers, health facility leaders, and programme managers.

1.6.2. Specific objectives

1. To explore barriers and facilitators to the dissemination of the integration of cervical cancer screening and treatment of precancerous lesions into other reproductive health services from policy level to implementers.

2. To explore barriers and facilitators to adoption by the organisational level of the integration of cervical cancer screening and treatment of precancerous lesions into other reproductive health services.

3. To explore barriers and facilitators to adoption by individual providers of the integration of cervical cancer screening and treatment of precancerous lesions into other reproductive health services.

1.7. CONCEPTUAL FRAMEWORK

This research employed the Consolidated Framework for Implementation Research (CFIR) (43), which has been widely used in multiple studies due to its ability to explore factors that influence implementation at any point in the implementation process and to assess factors at different ecological levels, including individual, organisational and broader context; and allows for most research on dissemination and implementation to be framed within its constructs. The CFIR consists of five major domains as the determinants of implementation, namely, "intervention characteristics", the "outer setting" (broader context outside the organisation), "inner setting" (internal to the organisation), "characteristics of the individuals involved" in implementing and the "process of implementation". The CFIR has a total of 39 constructs within the five domains mentioned above (43). CFIR encourages data collection across various stakeholder groups in a given context. From literature, CFIR has been used to understand how the system, organizational and individual factors influence the dissemination and adoption of innovations (44-46). Based on Rogers' diffusion of innovation theory, only those constructs within the CFIR domains deemed relevant for exploring dissemination and adoption (25, 47) were used for this research (Figure 1).

CFIR was thought to be a relevant framework for this research because the outer setting construct allows exploration of external factors to the districts and health facilities; this is important because district health departments and health facilities operate within a broader health system which affects how they operate. These outer setting factors include policies and incentives, patient needs and resources, external environment, and influence. The inner setting construct explores the factors within the organization (the district departments and health facilities). Exploring the inner setting is important since the districts health departments and health facilities are expected to adopt the innovation. Relevant constructs to explore in this study include the implementation climate within district and health facilities, leadership, networks and communications within health facilities and districts and that among health facilities, readiness for implementation of the integration of cervical cancer screening and treatment into other reproductive services (ICP_RHS), and training and assistance (Figure 1).

The individual characteristics construct explores the characteristics of individuals within districts and health facilities who will be involved in implementing ICP_RHS. This construct consists of their knowledge, perceptions, and beliefs about ICP_RHS and personal attributes and self-efficacy.

The ICP_RHS characteristics construct explores implementers knowledge of the cost of ICP_RHS, the evidence strength and quality of ICP_RHS and the complexity of ICP_RHS. The dissemination process explores change agents and champions' influence on disseminating ICP_RHS and the communication process and channels used for dissemination.

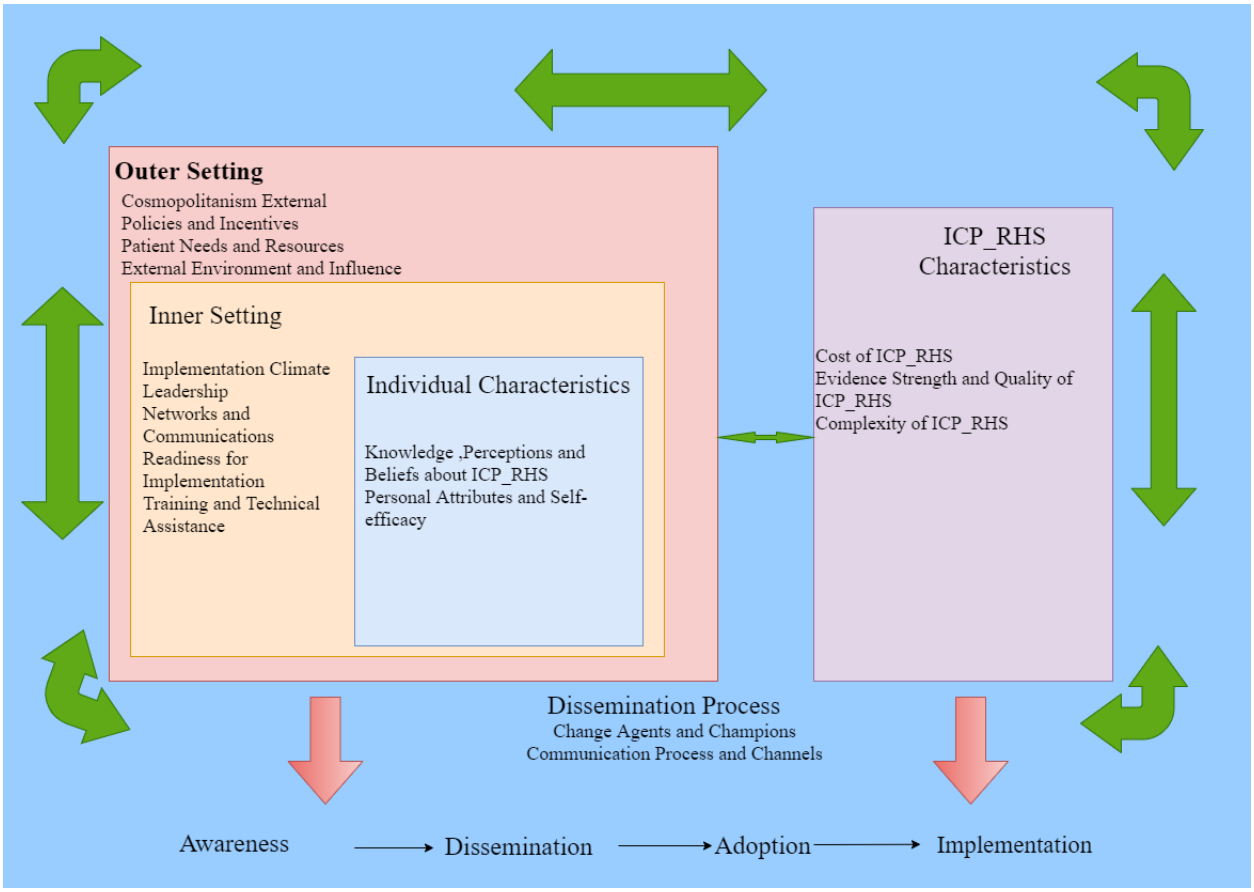

Figure 1.1 – Adapted Consolidated Framework for Implementation Research (CFIR)

CHAPTER TWO: RESEARCH METHODS

2.1. INTRODUCTION

This chapter gives details about the methods used to carry out this study, in other words, what was done and how it was done to achieve the project aim and objectives. It highlights the research design that guided the choice of conceptual framework and appropriate methods to answer the research question and rationale for choosing methods. It also includes the study setting, the study population, participants, and how they were recruited for the study. Furthermore, it provides information on the data collection process (including data collection methods and instruments used) and how data was managed and analysed. Last but not least, it provides information on ethical issues and processes adopted for this study.

2.2. STUDY DESIGN

The research design used for this study was an exploratory study using qualitative methods guided by Rogers' theory of diffusion and the consolidated framework for implementation research (CFIR). Implementation research (IR) using qualitative methods tends to be rather positivist and deductive, guided by theoretical frameworks and implementation models or frameworks (48) such as CFIR (used for this study) (43). IR also tends to be directed towards multiple stakeholders in varied-diverse settings (49). This study conducted qualitative semi-structured interviews (SSIs) with various stakeholders at different health system levels, namely, district officers, facility leaders or supervisors, and health care providers (doctors, nurses, and midwives).

2.3. STUDY SETTING

The study was conducted in the Greater Accra Region (GAR), Ghana. The GAR is one of the sixteen (16) regions in Ghana and the smallest landmass among these regions; however, it is the most populated region with an estimated population of 4.8 million. This region has sixteen (16) administrative areas consisting of two (2) metropolis, three (3) municipals, and eleven (11) districts with one thousand and eighty-seven (1087) health facilities which include Community-Based Health Planning and Services (CHPS) compounds, clinics, district hospitals, health care centres, health care post, hospitals, maternity homes, polyclinics and psychiatric hospitals (50). The region has various health care delivery systems designated for cancer screening and precancer treatment.

(2) (Figure 2.1). Health care facilities are under the authority of the district/municipal/metro health directorates and managed by facility managers who have designated names based on which healthcare delivery system the facility falls.

According to the national strategy for cancer control in Ghana (2), cancer screening was designated in tertiary hospitals, district hospitals, and sub-district health facilities of the health delivery system. As stated above, the Greater Accra Region has all these health care delivery platforms established for cancer screening and treatment. There are eighty-five (85) health facilities in Ghana offering cervical cancer screening and precancer treatment services, located in 12 of the 16 regions in the country, and 18 of these facilities are in the Greater Accra Region (51). Also, a study conducted in Ghana reported a higher incidence rate of cervical cancer in this region than in the Ashanti Region, also in Ghana (52).

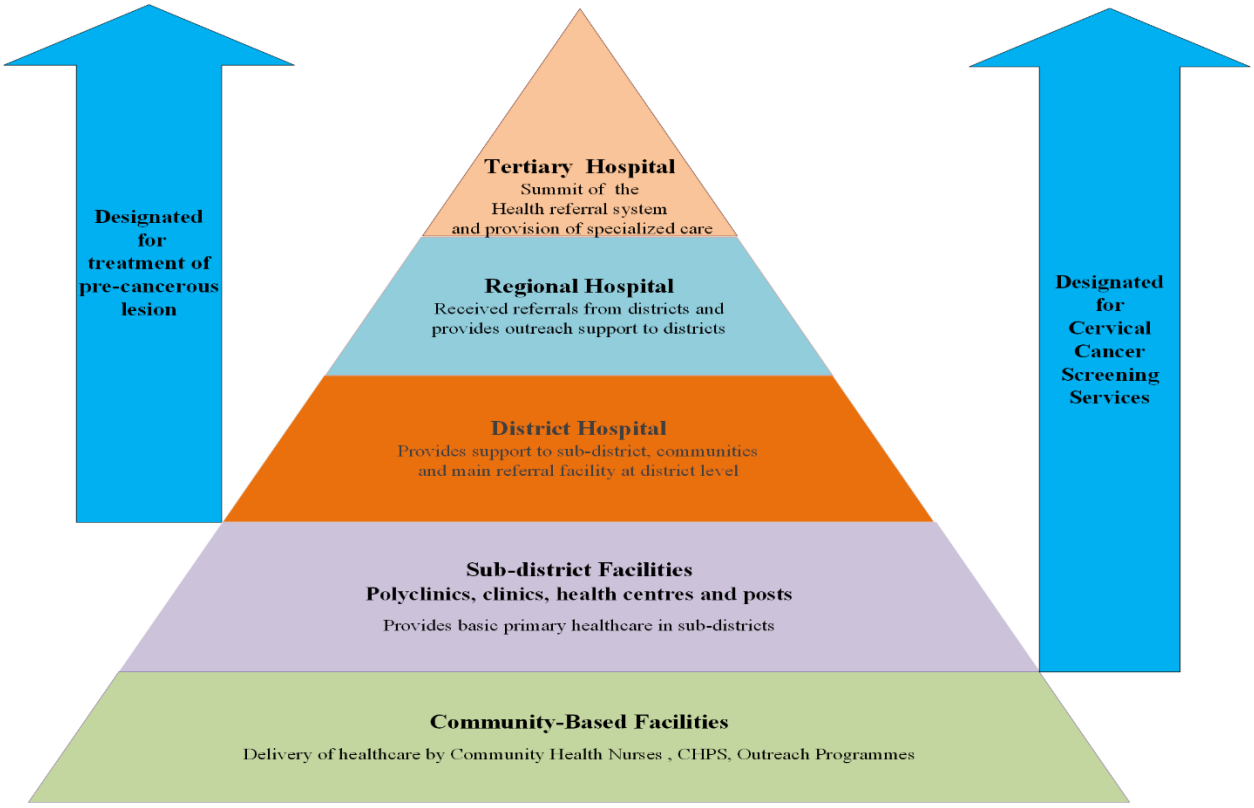

Figure 2.1 – Levels of the Health Care Delivery System in Ghana

2.4. STUDY SITES AND STUDY POPULATION

2.4.1. Study Sites

Five (5) health facilities were purposely selected. Health facilities were selected if they were government institutions and provided either cervical cancer screening, precancer treatment, or both and allowed for the representation of the different levels of health care delivery designated for cervical cancer screening and precancer treatment. Health facilities selected included two (2) tertiary hospitals (urban), two (2) district hospitals (one peri-urban and one rural) and one (1) polyclinic (rural). This selection was to ensure understanding of context across multiple-varied settings. The health facilities selected are located in four (4) administrative areas in GAR.

2.4.2. Study Population

The study population consisted of doctors, midwives, and nurses who were involved in providing screening or reproductive health services at health facilities; facility managers and heads/supervisors of departments or units at the health facilities; district health officers in four (4) administrative areas in the region; and a regional health directorate officer in 2020.

2.5. PARTICIPANT SAMPLING AND RECRUITMENT

The purposive sampling approach used was heterogenous to ensure maximum variability within the primary data. Health care providers were purposefully sampled and selected if:

1. They were involved in providing cervical cancer screening services, treating precancerous lesions, or providing reproductive health services such as family planning, ante-natal, post-natal services, sexually transmitted disease services, maternal health, and delivery services.
2. They had worked not less than six months at the health facilities or districts. (This applied to health administrators as well.)

The study aimed to select one regional officer from the regional health directorate, one district officer in each of the four administrative areas, one facility leader from each of the selected five facilities, and two to six healthcare providers across the various facilities. In February 2020 (except for the tertiary hospitals), almost all study sites were visited after receiving initial ethical clearance to establish rapport and contact to help with recruitment.

Due to Covid-19 and restrictions on movement, recruitment was done both in-person and online. An online recruitment form was created using RedCap, a secure web application for building and managing online surveys and databases. A voice-over video presentation was made, including information about the study, the recruitment process, and what to do to be part of the study. This video presentation was shared via social media (mainly WhatsApp) and email to contacts established at the various study sites to share with colleagues who were possible eligible health care providers (doctors, nurses, and midwives). The link to the recruitment form was shared alongside the video presentation. Health care administrators who were also participants were contacted either in-person or on WhatsApp.

A total of 41 participants were eligible and recruited across the various sites from July to November 2020 for the semi-structured interviews (Table 2.1). Two (2) health care providers later refused to continue with the study and withdrew for no specific reasons. Upon several attempts (four), the regional health officer was unavailable for the interview, so this was not pursued further.

Table 2.1 – Participants in the study

Participant type and level	**No. individuals recruited for the study**						**No. interviewed in the study**					
	Site A	**Site B1**	**Site B2**	**Site C**	**Site D**	**TOTAL**	**Site A**	**Site B1**	**Site B2**	**Site C**	**Site D**	**TOTAL**
Health facility level												
• Managers	1	1	1	1	1	5	1	1	1	1	1	5
• Providers	7	4	5	8	7	31	4	2	4	5	2	17
All	**8**	**5**	**6**	**9**	**8**	**36**	**5**	**3**	**5**	**6**	**3**	**22**
District level												
• District Directorate managers	**1**	**1**		**1**	**1**	**4**	**1**	**1**		**1**	**1**	**4**
Regional level												
• Regional Directorate manager	**1**				**1**		**0**				**0**	

TOTAL PARTICIPANTS		**41**		**26**

After confirming their eligibility (via the online recruitment form), all participants completed an online socio-demographic and information form that collected details such as age, gender, educational qualification, and role description. Participants also indicated on this form when they wanted to be interviewed. Participants recruited in-person and by telephone were sent a link only to confirm eligibility and complete the socio-demographic and information form.

The final number of participants interviewed was 26, consisting of four (4) district officers, five (5) facility managers/unit heads or supervisors, and 17 health care providers. Data saturation for healthcare providers was reached after interviewing sixteen healthcare providers, so after the seventeenth (17^{th}) interview, the remaining twelve healthcare providers were no longer pursued.

2.6. DATA COLLECTION

Data were collected from July 2020 to November 2020 using semi-structured interview guides. An already existing CFIR interview tool (53) was adapted to create the semi-structured interview guides (Appendix B-E).

Interviews can be conducted either in-person, via electronic media (Skype), or telephone (48). According to (54), most studies have found that data quality is comparable between face-to-face and telephonic interviews in their literature review. The current global pandemic necessitated the need to follow the laid down protocols to reduce the spread of the virus. Hence, the interviews that were initially planned for face-to-face were instead done mostly via telephone (twenty-two interviews) and also by in-person (face-to-face) interviews (four interviews). This change was approved by the Ethics Committees. The average duration for interviews was between twenty (20) minutes to one (1) hour.

All interviews were done in the English language and audio recorded. The interviews with district officers explored their perceptions and experience about the process of dissemination and adoption. The interview guide (Appendix C) was used and asked open-ended questions about how they get to know about new policies and evidence-based programmes and how they disseminate these new policies and evidence-based programmes to health facilities. Also, the district officer's

perception about possible barriers and facilitators that may affect the dissemination and adoption of the innovation were explored.

The interviews with facility managers and individual health care providers explored their perceptions and experience about the process of dissemination and the extent to which their organisations and individual health care providers adopt new policies and innovations. The interview guides (Appendix D and E) were used, and open-ended questions were asked related to five CFIR domains to explore their perceptions regarding factors that influenced both dissemination and adoption, namely:

1. Perceived attributes of integration of cervical cancer screening into other reproductive health services. (CFIR Domain-Intervention Characteristics)
2. Dissemination process, communication channels used in the dissemination process (from their experience with other interventions or programmes), and change agents and champions (CFIR Domain- Process)
3. The nature and characteristics of the social system include characteristics of individuals, organisational-level factors (climate, culture, network and communications and readiness), and system-level factors (CFIR Domains – Inner Setting, Outer Setting and Characteristics of Individuals)

The principal investigator (PI) who conducted all interviews is considered as an instrument. The PI frequently accessed her positionality (within the setting) and subjectivities through reflexive notes.

2.7. DATA MANAGEMENT

2.7.1. Transcription

All audio recordings were transcribed verbatim by two (2) professional transcribers into Microsoft Word document formats. A transcription protocol was developed for transcribers to guide transcription. The PI listened to all of the audio recordings while reading the transcripts and edited them when necessary to ensure no missing information.

2.7.2. Data Handling, Data Files Management, and Storage

The stakeholder groups (from which participants were selected) were named and designated as follows, System-level (district) - SL, Organisational level (facility managers) - OL, and Provider Level (individual healthcare providers) - PL. The four administrative areas were designated using alphabets from site A to D. Two of the health care facilities were in the same administrative area; in this case, B, so were designated sites B1 and B2. Participants were allocated unique participant IDs. These IDs became pseudonyms for participants: all electronic information – audio recordings, transcripts, and socio-demographic information – were linked with its source.

2.7.3. Qualitative Data Analysis Software

This study's qualitative data analysis software was NVivo version twelve (12) plus by QSR International. This particular software was chosen because of its feature, the "Framework Matrices", which is very useful for the method of analysis used for this study. The transcripts and audio recordings were imported into the software for analysis.

2.8. DATA ANALYSIS

The data analysis method used for this study was Framework Analysis, widely used in health care and policy studies and considered an appropriate, flexible, pragmatic, rigorous, and systematic approach for analysing qualitative data(55-57). The strategy for data analysis in this study was combining both deductive and inductive approaches; hence this method of analysis accents how both prior issues and emerging data-directed themes guide the development of the analytical framework(56). The analysis process was carried out in five stages:

Step One – Familiarisation

This step aimed to engage with the data extensively, which involved listening to the recorded interviews, reading transcripts, and taking notes of emerging issues in the data. All data was not engaged at this initial stage but happened during the subsequent data analysis phases because analysis began before data collection was completed.

Step Two- Initial Coding and Development of the Analytical Framework

Priori categories (CFIR constructs) relevant to dissemination and adoption from literature (25, 38) were applied deductively to three transcripts while coding inductively for emerging themes from the data. Coding was done in NVivo, and the initial codebook was exported. This initial codebook was reviewed by the researcher's supervisors and discussed in a meeting. Feedback was noted, and the analytical framework was revised to ensure dependability. The transcripts were re-coded using the revised analytical framework. Coding and codebook were further reviewed utilising the process of inter-coder agreement done in a virtual meeting with a fellow postgraduate student based on the three transcripts. Divergent views were discussed by re-visiting transcripts and agreement established to get the draft of the analytical framework.

Step Three – Indexing

The draft framework was applied to all transcripts simultaneously, making notes that allowed further data immersion and refining themes and sub-themes (based on CFIR constructs). The data were coded either as a positive (facilitator) or negative influence (barrier) on dissemination and adoption. Some themes were renamed appropriately; for example, "Process" one of the domains of CFIR was named "Dissemination Process", "Available Resources" became "Needs and Resources".

Step Four – Charting

This stage aimed to arrange data into a more manageable format. This charting was easily done with the help of NVivo using the feature "framework matrices". At this stage, the researcher summarised what participants said for each theme organised in a matrix chart with themes as columns and cases (participants) as rows. The matrix chart allowed summaries to be read and analysed across for within-case analysis and downwards for cross-case analysis.

Step Five – Mapping and Interpretation

This stage involved describing, establishing relationships, patterns and made attempts to provide explanations. Emerging barriers and facilitators to disseminating and adopting cervical cancer screening and precancer treatment into other reproductive health services were identified.

2.9. REFLEXIVITY

Within the context of this study, the researcher was involved in face-to-face, telephonic, and chat contacts with participants. There was the need to consider how the researcher's interactions with them will be influenced by background, experiences, and possible assumptions. The researcher is a post-graduate student without a clinical background but had previous opportunities to work in both clinical and field settings in both urban and rural areas. An important issue that needed to be addressed to draw conclusions was whether the researcher's background influenced participants' willingness to engage openly with her or how it shaped what was said. During the entire process of the study, the researcher was self-conscious and aware of her role as an instrument and to well guard against biases, assumptions, and pre-conceptions.

Also, the researcher's ability to be detail-oriented, observant, and with strong ethics, I believe, impacted positively on how data was collected, managed, and analysed.

2.10. VALIDATION AND RELIABILITY

Data validity and reliability were ensured by adapting a CFIR interview guide (53) to create the semi-structured interview guide, which only included concepts relevant to the study. The researcher sought information from participants with expertise and experience. Also, negative case analysis was attempted, and data triangulation was done by comparing results across different stakeholder levels and settings.

2.11. ETHICAL CONSIDERATIONS

Ethics approvals were obtained from the Human Research Ethics Committee (HREC) of the University of the Witwatersrand, South Africa with reference number: **M1911147**, Ghana Health Service Ethics Review Committee (GHS-ERC), Ghana with reference number: **GHS-ERC 019/01/20,** and The Korle Bu Teaching Hospital Institutional Review Board (KBTH-IRB) with reference number **(KBTH-IRB) 00016/2020**. Administrative permission was sought from the Greater Accra Regional Health Directorate of the Ghana Health Service and the Korle- Bu teaching hospital. Before starting data, collection permission was sought from the gatekeepers at the district health directorates and health facilities.

Protocols were amended and approved to indicate that interviews will be conducted telephonically. Face-to-face used when necessary, such as difficulty to reach participants telephonically and preference of participants.

All participants were contacted via telephone, WhatsApp, or email to explain the details of the study in brief. Written and verbal informed consent was obtained from participants. Participants received the participant information document(sheet), formally inviting them to participate and explain the purpose of the study in detail (see Appendix A). Most participants received a link to sign interview consent forms (Appendix A) and audio consent forms (Appendix A) [those that had touch screen devices or were able to sign using a computer mouse]; otherwise, consent was sought using verbal means.

Participants who signed consent forms electronically were able to download a copy of their signed forms. Links were only sent to participants to sign, or consents were established after all questions about the study and methods were explained to their satisfaction. Participants for in-person interviews were given printed information sheets and consent forms to sign. Participants were free to withdraw from the study at any point in time without professional or research-related consequences.

Anonymity and confidentiality were established using designated symbols for the various study sites' pseudo names for participants. Participants were also told not to reveal their facility names and names during interviews. For security, all generated electronic files were encrypted stored securely on a computer, and print files were locked in a secure place. The data will be stored for a period not exceeding two (2) years if research is published and Six (6) years in the case of no publication. All files were stored securely on a computer and one drive (linked to the PI’s organisational email). All files were encrypted and only accessible via password.

CHAPTER THREE: RESULTS

3.1. INTRODUCTION

In this chapter, the results of the study are presented. The chapter highlights a brief description of participants' characteristics, description of reproductive health services, cervical cancer screening and precancer treatment at study sites and explains the key findings obtained from the 26 semi-structured interviews conducted, according to the objectives and themes. Except for a district officer, all participants were unaware of ICP_RHS, and dissemination of ICP_RHS had not started. Therefore, dissemination objectives will focus on what the study identified could facilitate dissemination of ICP_RHS, based on participants' experience and perceptions about how such interventions are disseminated.

3.2. PARTICIPANTS CHARACTERISTICS

In total, 26 participants were interviewed, including district officers, facility leaders, and health care providers in all four administrative areas. Participants comprised 21 females and five (5) males with ages between 28 to 57 years. All participants had been in their role for more than one year, except for two, who had been in their position for more than six (6) months but less than one year.

Table 3.1 – Summary of Participants Characteristics

CHARACTERISTICS	NUMBER OF PARTICIPANTS
Age Range	
21-30	3
31-40	15
41-50	4
51-60	4
Gender	
Male	5
Female	21
Professional Profile	
District Level	
District Health Director	2

District Director of Nursing Services	2
Health Facility Level	
Facility Head	2
Deputy Director of Nursing Services	1
Unit Head/Supervisor	2
Healthcare Provider Level	
Doctors	3
Nurses/Midwives	14
Working Experience in Role	
More than six months less than one year	4
More than a year	22

3.3. REPRODUCTIVE HEALTH SERVICES AND CERVICAL CANCER SCREENING AND PRECANCER TREATMENT AT STUDY SITES

All five health facilities offered reproductive health services in these areas, including family planning, ante-natal, delivery, post-natal, fertility, and comprehensive abortion care. These services were provided by public health nurses, midwives, and doctors.

Site B1 and B2, located in an urban area, offered delivery, antenatal, post-natal services and had established reproductive health centres which offered other reproductive health services including family planning, safe abortion care, HIV testing, management of sexually transmitted infections) with Site B2 offering the additional service of having fertility clinics to deal with fertility issues. Site A was located in a peri-urban area and did not have an established reproductive health unit; however, it provided maternal and child health services such as ante-natal, delivery, post-natal and family planning within their Maternal and Child Health Department. Sites C and D were located in rural areas and did not have an established reproductive unit; however, they provided other reproductive health services, including adolescent health, ante-natal, delivery, post-natal, and family planning services.

All health facilities offered cervical cancer screening; some (n=3) did active screening offering the services to women and others, only upon request by women (n=2). For facilities that did the active screening, some did screening every day (n=2), and the other only on particular days of the week (n=1). These screenings were walk-in services. All facilities provide at least one method of

screening - either cytology (pap smear), visual inspection with acetic acid (VIA), or both as screening methods. Among the five facilities, two (2) provided precancer (PC) treatment - either cryotherapy or loop electrosurgical excision procedure (LEEP) and those that did not offer PC treatment (n=3) referred screen-positive cases elsewhere.

3.4. PERCEIVED FACILITATORS OF THE DISSEMINATION OF ICP_RHS FROM POLICY LEVEL TO IMPLEMENTERS

Participants were asked if they were aware of ICP_RHS and most were not aware except for one district officer who was aware and further indicated that dissemination had not started. The main goals of dissemination will be to increase the reach of information, facilitate would-be implementers' motivation to use and apply knowledge and the ability to use and apply innovations. Since almost all participants were unaware of the ICP_RHS strategy and had no experience of its dissemination, the interviews explored participants' perceived facilitators based on their experiences with the dissemination of other interventions or programmes from the policy level. The themes that emerged from this related only to facilitators – factors that participants perceived, and the study identified that could be leveraged to disseminate ICP_RHS. These themes are summarised in table 3.2.

Table 3.2 – Summary of Themes - Dissemination

CFIR CONSTRUCTS	THEMES
Dissemination Process	• The existence of change agents • Effective communication process and channels
Inner Setting	• The existence of an atmosphere for continuous learning for clinical knowledge and practice • Good leadership with supportive management style and skills

The Existence of change agents

Participants identified the importance of having a particular person, health facility, or external organisations that could be change agents and champions in disseminating ICP_RHS.

District officers mentioned the district health management team (DHMT) that includes the facility managers of the health facilities in that administrative area, which could help the dissemination process.

Participants identified experts in the area of concern who could help in the dissemination process; such persons included focal persons for maternal health issues, district public health nurses, and health information officers. Healthcare providers noted that these persons ensure to sensitise them to their understanding. Participants acknowledged that some health facilities already offering these services could also serve as change agents or champions.

Furthermore, participants identified non-governmental organisations and other external persons that could be vital to the dissemination process; for instance, a district officer mentioned they already have organisations they work with, so once the innovation is formally communicated, these external organisations will be informed, and it is expected that they carry the message on. A facility leader mentioned the need to bring survivors on board. Lastly, district officers and some health care providers acknowledged their role as change agents and champions in the dissemination process.

"…at the district level we have a public health nurse, we have district officers who I believe can be a help and assistance to these facilities." – District officer 3

"Normally with this, it has to do with health information officers. Anything that comes, they take it into consideration and then come down to our level to sensitise us on it." – Healthcare provider 16

"… and with the introduction of the policy, we expect also that there will be, should I say, that additional support to the facilities these services. If within the facility itself they do not have the means to do that, then it means you have to seek for external support to help us to make sure that the policy is implemented or the service is provided; let me put it that way." – District officer 2

Effective communication process and channels

Participants gave insights into how the existing communication process and structure disseminate new policies and ways of doing things. Participants mentioned they usually receive such

information through letters, memos, or emails. The communication process and structure are such that, from national, it goes to the region then to the districts who ensure that information gets to the various facilities. Most participants believed it was effective.

"So, usually there is correspondence from the national and regional level, and then come to the district health directorate, then the district director then also disseminates the information to the health facility." – District officer 3

"I think it is an effective process based on the fact that the communication starts from the national level, then it gets to the regional level, okay, then I guess the district level, then facility." – Facility leader 5

"Normally, it goes to the health directorate first, and then management would take over, and then they disseminate it to us per unit level, and then they sensitise us on it, how they would want us to carry it to our clients." –Healthcare provider 16

Additionally, participants felt the use of different communication channels in disseminating information to implementers, including electronic media, print media, social media, and interpersonal channels, will facilitate dissemination. District officers and facility leaders discussed receiving initial communications about new interventions via print (letters/memos), electronic media (emails), and sometimes through social platforms, such as WhatsApp.

Also, participants talked about how once the new interventions are introduced to the implementer level, the leaders use various communication and information-sharing channels at the implementation level to disseminate to providers, for example, the use of interpersonal communications channels such as meetings, staff durbars, training and workshops, conferences, or seminars. A participant explained how matrons at the facility would usually call for a meeting to present new initiatives by facility management. Subsequently, workshops are organised for more education and practical demonstrations.

"Usually, they send a memo around if it's something that needs to be communicated to them; personally, a memo would be sent, maybe a date would be fixed, we would get called for a durbar or any other thing, or an in-service training, and then the information is disseminated to all the other staff." – Healthcare provider 12

"Normally, there will be a directive that we should have a training especially with the key leaders, and then later on a TOT training will be done, and then personnel from national will come to have an interview with us confirming whether we as leaders, we have really understood the policy that has been put in place, and then they come on monitoring to as well." – Facility leader 1

"What we usually do is to introduce the policy to the facility and then also to give them the training on what to do, as in how it's supposed, what is supposed to be done." –District officer 2

The existence of an atmosphere for continuous learning for clinical knowledge and practice

Participants across all health facilities in this study mentioned existing practices that they felt enabled implementers to share ideas, learn new ways of doing things, and learn new interventions from the policy level. Both facility leaders and health providers talked about having social media platforms and weekly clinical meetings to discuss recent trends, new ways of doing things, and adding on to what was already known. Health care providers further talked about instances where some persons or individuals can attend training, workshops, and conferences. Upon their return, they shared the knowledge gained at these clinical meetings.

"Yes, and then or maybe if we have a clinical meeting, we used to do a clinical meeting every week. Where people teach or summarise whatever they went to learn so that we'll all add up to what we know already." –Healthcare provider 11

"…we ensure that we come together and share ideas. especially with this coro (Covid-19), there was a lot of knowledge and hearsay on social media. When you get authentic information about something, you put it on the WhatsApp platform, and people share their experiences and ask questions."-Facility leader 1

Additionally, district officers believed in their role of providing coaching, monitoring, and supervision to ensure that new policies and guidelines are being implemented and expressed their readiness to do the same for ICP_RHS. Also, some health care providers confirmed how district officers came for monitoring and supervision to ensure whatever the policy or directive mandates is done right.

"Okay, so for the district level, what we do is, we do monitoring and supervision. We make sure whatever program or the policies or program that is going on, that is being implemented at the

facility level, we from the district level, we make a way of you know, monitoring and supervision to make sure they're doing the right thing at the facility level." – District officer 1

"…and then continuously having monitoring and evaluation and supportive supervision to you know, continue providing the services." – Facility leader 2

Good leadership with supportive management style and skills

Participants identified existing factors within the organisations (districts and facilities) that they felt would support the dissemination of ICP_RHS. Participants reported that the district officers and facility leaders exhibited good leadership and, in a way, showed their readiness to provide the needed support to ensure the implementation of ICP_RHS. Some district officers talked about how they need to ensure logistics are available and supplied to health facilities.

Additionally, a district officer mentioned how they undertake monitoring and supervision to ensure that policies are being adhered to, provide coaching and re-orientation when needed, and the willingness to come to the aid of health facilities in case of any challenges.

"Okay, they would need our support. We need to support them adequately so that they can, you know, actually, implement the innovation, and when they are doing well, you will need to encourage them, and sometimes we have to continue reorienting them, and when they are already staff that are moving out, you have to find a replacement, so that the work would continue, and you know end up well."-District officer 1

"… because then management, once they are aware of what has to be done, will supervise and provide the needed supportive supervision to ensure that the service is always I mean- provided continuously or regularly." –District officer 2

District officers and facility leaders highlighted the use of varied management styles and skills. A district officer talked about how it was essential to engage the management of health facilities to listen to their concerns about innovations and how best to address these concerns.

Facility leaders believed in the consultative and pacesetting style of management. One leader explains organising weekly clinical meetings to discuss issues and how best to improve service. Also, another facility leader mentioned in every human institution that starting a new initiative is

not easy and essential that leaders are pacesetters. She added that people tend to learn more when they see leaders involved in the practice of innovations.

A district officer mentioned encouraging facilities and healthcare providers for good works, further motivating them to continue doing good work. In addition, another district officer experienced her opinion on the style of management that works.

"The leader must know that he/she must manage the affairs of the people by binging what he/she wants to do to the attention of the people, and he/she must explain, let them understand, understand the concept, understand the reason everything, explain to them very well. And then be able to apply whichever management, managerial principles and administrative principles that are appropriate." – District officer 4

3.5. PERCEIVED FACTORS THAT MAY INFLUENCE ORGANISATIONAL ADOPTION OF ICP_RHS

Participants in this study described various factors, based on their experiences and perceptions, that may influence the ICP-RHS innovation's organisational adoption, and most were identified as facilitators. However, some themes that emerged were both facilitators and barriers. Themes and the CFIR constructs within which they fall are summarised in table 3.3

Table 3.3 – Summary of Themes Organisational Adoption

CFIR CONSTRUCTS	THEMES
Characteristics of ICP_RHS	• Compatibility and perceived simplicity of ICP_RHS
Outer Setting	• The enactment of a national policy or directive
Inner Setting	• Perceived need and demand for ICP_RHS • Availability of resources

Compatibility and perceived simplicity of ICP_RHS

Facility leaders and health providers believed that it would be easy to implement this innovation and did not think it would be complicated, however, with conditions. A facility leader believed that screening and treating PC was not difficult for providers if the providers were trained to provide such a service.

Additionally, a health provider mentioned that the reproductive health service (RHS) unit already exists; they see women all the time. ICP_RHS will just be added on, and most of the providers in the RHS unit were already trained (on screening and treatment). A participant also perceived it would be easy because women come in for various reasons and therefore could be easily reached with the screening at every point.

"…you get a lot of women coming to the hospital for gynaecological purposes and then within that time frame, they also get screened for cervical, so it will be very easy…"-Healthcare provider 12

"*I don't think it'd be complicated; I think it perfectly relies on the kind of education health given before the process begins."* –Facility leader 5

Additionally, participants expressed compatibility of ICP_RHS intervention with existing organisational practices. Across all sites, participants expressed that ICP_RHS would work very well with already existing workflows and practices, some of which would even support and make implementing ICP_RHS easier. For example, a health provider mentioned that her facility could implement ICP_RHS because, in their day-to-day activities, reproductive health services and cervical cancer screening are already being provided; therefore, implementing this strategy of integrating them will not be a challenge.

A facility leader mentioned the facility was already doing focused ante-natal care, so a few cubicles were already available where there was a place for family planning. Hence, ICP_RHS could easily be added to their existing workflows. Another facility leader felt the integrated approach would not negatively impact other services at the facilities; for example, the facility was already actively providing RHS and screening services; hence ICP_RHS would fit into their processes quite easily.

"Oh yes, we have family planning nurses already providing services in that area. I mean for women. So, that is something that will help us, because we already have should I say, the family planning corners or areas already- predesignated and working. So, that should be a support for us to be able to implement this service." –District officer 2

The enactment of a national policy or directive

Participants across the health system levels and settings were not aware that the integrated approach was a national policy but perceived that once a new strategy becomes a national policy, the facilities have no choice but to implement it. Even if the facility didn't have space, the management would need to create it. That once it's a national policy, they have no choice but to oblige and should be able to adapt.

A facility leader said they are policy implementers and if there is a national directive to implement ICP_RHS. They (implementers) have to do it and further emphasised that everything starts with a well-structured policy or directive.

"That's the way I see it. In fact, we are policy implementors, so I don't know any management member– management of a facility will say that no we are not ready yet when the government or Ghana Health Services says that we should be doing ABCD." –Facility leader 4

"… *a policy like this would be coming from the Ministry of Health to the Ghana health service, and we are expected to accord the right of our employer, so I don't see anybody coming in as a facility to say, if my employer says what they want us to do, I will not do it, I don't see it happening*." –District officer 4

"*if they are able to enrol it as a national policy or something…then it'll be perfect*." –Facility leader 3

"*So, it's based on er whatever directive that comes from the national level and then based on that er we will know how to proceed*" – District officer 2

Perceived need and demand for ICP_RHS

All participants expressed a need for the integration strategy in their respective districts and health facilities since the increasing incidence and mortality of cervical cancer was intolerable. District officers and facility leaders expressed a need for at least every district hospital to offer screening services because many women were not getting screened and therefore presenting late and dying

from cervical cancer. Also, health providers said it was a matter of necessity and the need for every facility to undertake this strategy of ICP_RHS, especially to reduce the rate of incidence and mortality.

"There is a need for every facility to undertake this strategy, if we really want to bring down cervical cancer, because the more we screen, the more we get to know, positive cases and those at risk, and the more we prevent it from deteriorating into cancer." –Healthcare provider 16

"Yes, there's a need. In fact, we've all been talking about this issue of cervical cancer. How difficult it is to see a woman dying- you know, normally the issue of sex and other things; people don't normally talk about it, and people may be having problems that it's a bit difficult for them to come out to say that this is my challenge. So, if it's integrated to the normal services, I think a lot of cases may be picked early even maybe without the patient even knowing." –Facility leader 4

Availability of Resources

Participants' descriptions, experiences and perceptions under this theme will include facilitators and barriers that may hinder organisational adoption of ICP_RHS.

Participants discussed the need for funding, infrastructure, human resource, and logistics to integrate screening and treatment in RHS at facilities. Participants believed that if resources needed to implement ICP_RHS are made available, it will encourage receptivity by facilities and motivation to implement ICP_RHS. For example, a health provider mentioned that if every facility gets the support and funding, they would be receptive to ICP_RHS. Also, a district officer said they would need funds to buy more equipment to implement this strategy.

Other participants mentioned that even if a facility had adequate staff, they would have to be trained and sensitised to implement this integrated strategy and provide the resources they need.

"…and we need money, facilities would need money to buy equipment, to this new thing, to be able to implement new policies, if they don't get the right equipment, for the staff, because you can train the people, but if you don't give them the equipment they need, health providers would have to go for the training, come back and sit down." – District Officer 4

"So, once providers are trained, then there should be the accompanying logistics that they need to carry out the service made available that is enough motivation for them to roll out the policy and implement it." -District Officer 2

"...and then we hope that we have the necessary logistics to be able to serve the clients so that you don't have to go and come back and then make it all cumbersome and stressful."-Healthcare provider 7

A few participants talked about how there seems to be a constant supply of logistics; however, at some point, it stops, and when that happens, they don't feel encouraged to continue the work.

"…but then do we have the logistics for the screening? Or we're going to do it for a year, and then logistics are not there, even the solutions to do the screening and all that. It will reach somewhere; then they will say there is none, my observation." – Facility leader 1

"Yes, so having trained the people, you must equip them, you must give them the right equipment so that the program can be sustainable because if the equipment comes and it stops coming" - District officer 4

Participants mentioned the non-availability of resources, including specialist staff, infrastructure, equipment, and logistics, may discourage facilities from applying the integrated strategy and that the lack of space might be a challenge, especially since they would have to do many more screenings and, in some facilities, have to introduce pre-cancer treatment, because of this integrated strategy.

"So, if national have to present or if this policy has to be implemented in the hospital, then one of the main challenges is to get a gynaecologist. Because with, with, without that if, if we don't get the gynaecologist, it's not everything that the midwife can handle but then the gynaecologist can train the midwife or yes can train or work with them to some level and then they will handle the cases."- Healthcare provider 11

"There may be a change of infrastructure because then this place may be too small for us and then the staffing will be too small because currently, we are just like eight people who are really into it."-Facility Leader 2

"…even space, if facilities don't have space, so they have a limited accommodation, facilities don't have space, providers feel reluctant in delivering these services…If facilities don't have the necessary resources, the logistics that they need for the services, they will feel reluctant to do it." – District officer 1

Additionally, participants mentioned that there might not be enough health workers to do the screening and treatment, which would be a barrier to adoption. They suggested that to increase the number of personnel, not only should midwives be trained to deliver screening and treatment, but all other nurses should also be trained to provide these services.

"However, challenges that we are likely to encounter, maybe we don't have adequate staff…We don't have enough staff…because sometimes we are faced with staff attrition…sometimes the staff strength that can be a hindrance" – District officer 1

"So, in this case, if it's going to be effective, then we'll need more cubicles, more midwives, and then we restructure, we can restructure the way we run the clinic. So, we'll need more hands; we may need more hands; the midwives and we may need er rooms or maybe a place to do all those screening" – Healthcare provider 11

3.6. PERCEIVED FACTORS THAT MAY INFLUENCE INDIVIDUAL PROVIDER ADOPTION OF ICP_RHS

An individual within an organisation's decision to adopt is influenced by the organisation's decision to adopt a particular innovation. Participants in this study described various experiences and perceptions that may affect individual provider adoption, and most were identified as facilitators. However, some themes that emerged were both facilitators and barriers. Themes and the CFIR constructs within which they fall are summarized in table 3.4.

Table 3.4 – Summary of Themes Individual Provider Adoption

CFIR CONSTRUCTS	THEMES
Inner Setting	• Training and Coaching • Facility Management Support of ICP_RHS

	• Access to ICP_RHS protocols and guidelines • Networking and collaborations within health facilities
Outer Setting	• Inter-facility networking and collaborations within the healthcare system
Individual Characteristics	• Provider perceptions and beliefs about ICP_RHS • Provider attributes and self-efficacy

Training and Coaching

Participants talked about how before a new policy or strategy is implemented, training is organised by the GHS, mostly at regional or district levels. They expressed that in the same way, training would be required to facilitate the implementation of ICP_RHS. Some participants believed that anything might be complicated at the start; however, providers understand once they are trained, and it gets easier.

"Once like we get the right amount of training and then we are able to get the training done to for the for the staff and all that we should be able to take care of this immediately when it comes." – Healthcare provider 17

"So, training would be number one…normally with training- you know at times when something is new that you don't understand, at times it's a bit- people are hesitant but with training, nothing (seems incomplete quote)" -Facility Leader 4

Participants mentioned that facilities tend to have training coordinators who ensure that facility-based training is organised. The commonly used model is for a few providers to be trained and then return to their facilities to train their colleagues.

"We are trained on them, usually will be one or two people, and with the notion that those people will come back to the hospital and then implement them. So, after the training, they come back to the hospitals with the protocols, train other people they work with" – Healthcare provider 12

"In the facility, they have training coordinators. So, the head of the facility, having seen to it that some people have been selected to go, must together address together with the training coordinator to make sure that when they come, the facility at workshops are organised for those who didn't go." – District officer 4

Participants highlighted that for the integrated approach to be adopted, a broader group of health workers would need to be trained, not just midwives but also other nurses who offer services at various units within the reproductive health unit.

They also raised a concern that even if the train-the-trainer model is good, there are times when those trained may not in turn train others in the facility. "But if they don't, they don't meet us, we those who couldn't go to the workshop and tell us anything, it looks as if the knowledge is going to be with only those who went to the workshop, ... and then some of us will lag."-Healthcare provider 11

"Sometimes it depends on the person, whoever goes for the training, some people go, come back with the idea, the knowledge and everything, come to implement it, others go, and then they come back, and we don't hear anything from it." –Healthcare provider 12

"We don't want the case where you will be trained; you would go and go and sit down. Without you know updating your other colleagues, or also training them. Yeah, normally, that's what happens." -District officer 1

Some suggested that an even better approach would be for some of the training to be facility-based so more healthcare providers can get hands-on practical training rather than a few providers going outside the facility for training.

"Okay, so if there was a way that the actual training could be brought directly to the facility, so that not only midwives, maybe the all the clinician, which includes the medical officers, the physician assistants, could all be involved with the whole educational program and everything I think that would have them much prepared." –Facility Leader 5

"What I've realized during my training is when it's usually done facility-based, that is when the trainers or the facilitators come to the facilities or to the district to train, it's more effective, because they end up getting to train a lot of people."-Healthcare provider 12

It was also suggested that one way to address the issue of trained persons not going back to train others at respective facilities was for district officers, health facility managers, and training coordinators to be involved in training trainers. Also, district officers talked about not ending with

training but providing continual technical assistance to facilities, such as coaching, to ensure that providers can work well.

"So that if things are not going on well, we do on the job training or we do something like coaching, just to be sure that they are on track and doing the right thing...we do coaching, if something is not going on well, you educate them on it" – District officer 1

Facility Management Support of ICP_RHS

Health care providers expressed that they would be willing to adopt the innovation if there was leadership and management support because they (providers) could not do ICP_RHS independently without facility management support. Other health providers mentioned that if their leaders embrace the new strategy, everything else becomes easy and works out fine, and they would embrace it too.

"So far as we are aware of it, the management should make sure it is initiated, and we report on them too."-Healthcare provider 16

"It depends on the management if they should start…I can't implement it on my own, I have to get the go-ahead from the management or the hospital authorities before I can do that"-Healthcare provider 1

"There's always a team that is at the helm of affairs, making the decisions and then trying to implement it at our level. So once all those analyses are carried out by the team, we are ever ready to work with whatever we think is right." – Healthcare provider 7

Access to ICP_RHS protocols and guidelines

Some facility leaders and health providers mentioned that to implement, they would need to know precisely what the strategy is about and what is expected of them, what they needed to do and how to do it.

Furthermore, all stakeholders discussed the need to have access to guidelines and protocols to refer to whenever needed and ensure uniformity in providing the integrated service. Some health

providers also spoke about the need to have other materials such as leaflets, posters, and videos; some said they could refer to these if they have any issues.

"…So, as I said, the policies must be made, all these integrations and how it is going to be done, must all be laid out well, like a proper plan. So that you can always refer to a policy about something when you're not sure how you should go about it. So once all those things are in place, the integration will be effortless."- Health care provider 17

"…and then they need to send us leaflets and then posters to that effect so that we can paste in our rooms so that we can refer to them if we have any issues." –Healthcare provider 7

"Guideline has to be given so that as time goes on if we forget I mean a particular procedure, you can refer." – Healthcare provider 1

"They must be given the protocol to follow. So that there'll be uniformity in service delivery."- District officer 4

"So, it is like every person is involved, if they have full details of what they are expected to do … the policy measures have to be more specific as in age like, from 48 you should come in maybe once a year or every six months to be screened. There should be those specifics make it easy to implement and carry out." – Facility leader 5

Networking and collaborations within health facilities

Participants expressed the existence of good working and social relations among colleagues within units/departments, with other units or departments, and with senior colleagues or those in leadership roles. Most participants described these relationships as cordial and good, enabling them to work as a team, discuss and agree on issues.

Additionally, some health care providers talked about how it was easy to seek help from superiors or senior colleagues. Healthcare providers also spoke about having facility WhatsApp platforms that enable people to share experiences and ideas and ask questions.

"We discuss a lot of things amongst ourselves; we don't keep things amongst ourselves. So, if we are stuck somewhere, we move to have a senior person who's always willing to come in and help. So, the working relationship has been good so far." -Healthcare provider 10

Inter-facility networking and collaborations within the healthcare system

Participants talked about how they had a district WhatsApp platform where a wide range of helpful information and resources are shared and the opportunities of reading from varied angles and certainly get a lot of information from these platforms. Facility leaders and health care providers mentioned they communicate a lot with colleagues in other facilities and how this helps in getting the needed assistance on a particular procedure or something you are not conversant with and reaching out to others to find out how such procedures are done.

Also, health care providers talked about having robust collaborations with others; for example, sometimes there was a need to refer cases they could not handle to referral facilities, and other facilities also referring patients to their facilities. Communications facilitate these referrals via phone and on social media platforms. Furthermore, health care providers asserted that these communications have been helpful since before a case arrives, you know what to expect, and handling becomes more effortless.

"*So, we do communicate a lot. We get some of them bringing in their cases here; we also send some of our cases there... for the smaller clinics also bringing up cases. So usually, they will also call, call us, or send visual images to us. If it's the case, we can handle we let them bring them in. If it is the case that we can't handle, we, in turn, send all those images or details about the clients to a facility that can handle them*."-Health provider 11

Provider perceptions and beliefs about ICP_RHS

Participants believed the integration was a good strategy and in the right direction, and if implemented, it will have benefits as it will allow more women to get screened. In their view, if this integrated approach becomes part of the routine services, it will increase women and teenagers' chances of being screened because every woman that comes to the hospital whether,

for maternity, other reproductive-related health care, will have the opportunity of being screened. This would allow early detection for many more women and the chance to be treated, and so help with reducing the mortality rate of cervical cancer.

"But I think that if we are able to do it, yes, we would have access to a lot of women, and then a lot of women would also be screened, and then probably treatments will be given to lots of them, and it would save lives of so many women. So that's the only thing I think if they are able to do, it would be a long way to help the women in Ghana." - Facility Leader 3

"I normally see it at the last stages of cervical cancer, would be reduced, we would have mothers being alive to take care of the children. What I want to say is it's a very good initiative. It's a very good step towards promoting maternal health." – Facility leader 1

"*Oh, okay, what I know that the innovation is cost-effective and very effective., it will help in a way to improve the service, and it would be sustainable in a way if we can help so that to improve the health of women"* – District officer 1

However, a few health providers also believed that though a good strategy, ICP_RHS will be a lot of work and may increase their workload, hindering individual providers adoption.

"…it will bring more workload; I think that the only thing that will bring more workload. I believe we are capable of handling whatever would come as a necessity, all of us we are capable of handling anything that would come." –Healthcare provider 8

"…because erm is not a simple work, it's a whole lot of work that you have to do. And so, if they are being motivated well, some of them are going to take it seriously." – Healthcare provider 11

Provider attributes and self-efficacy

Health care providers who had already been doing screening and treatment believed they were competent and felt very confident in carrying out the cervical cancer screening and treatment intervention as part of their RHS provision. However, providers who had not been doing screening and treatment believed they would be confident only if they could acquire knowledge and be

trained on what they should do. For example, a health care provider said she felt confident in implementing this intervention as long as she had the needed support. Some health providers also talked about the need to be knowledgeable, have the zeal to read on their own, get more information.

"…and like I'm saying we are employed to provide services and if all of us think that this is what we should be doing and we have the competence, then there shouldn't be any problem at all." – Facility leader 4

"I think I'm very confident, with the needed, with the necessary support and everything, it wouldn't be just me, it will be I think it will be a teamwork, but then I'm very confident that we'll be able to implement it."– Healthcare provider 12

"Oh, I'm very confident, because we have been doing it for a few years now, and I think with our little efforts, we're able to get a lot of women" – Healthcare provider 9

Additionally, some participants stated that being interested in the innovation and being committed was very important for adopting it. For example, a facility leader said it takes a lot of interest for a health worker to provide the service.

"…it takes a lot of interest for that person to get, I mean a lot for the person to show a lot of interest to be able to provide a service because she might come with just oh I want to do family planning, but you end up providing all these services… as I said earlier, the people who should who provide the Services, should be interested, first, and then again, be available and committed to doing it." - Facility leader 2

"If there are committed, interested, they will do it, and do it well."- District Leader 1

"I think, if the interest is there, if the interest is there, yes, then no problem. The person is willing to do it." – Healthcare provider 11

CHAPTER FOUR: DISCUSSION

4.1. INTRODUCTION

The purpose of this study was to identify the barriers and facilitators of the dissemination and adoption of the integration of CC screening and treatment into other reproductive health services. The previous chapter reported the findings of this study, and this chapter seeks to provide a more holistic understanding. The chapter provides a summary of findings, provides interpretations of these findings, considers what literature says, the policy and practice implication of these findings, and then concludes by stating the limitations of this study.

4.2. FACILITATORS OF DISSEMINATION PROCESS

This study's findings show that the participants perceived several factors that would facilitate disseminating the policy on integrating cervical cancer screening and treatment (S&T) within RHS. These were identified as the existence of change agents, effective communication process and channels, and good leadership with supportive management style and skills.

Dissemination can occur through varied channels, contexts, and settings to achieve three main goals, namely, to increase the reach of the evidence-based intervention or practice that is being disseminated, motivate the intended audience to use and apply what is being disseminated and improve people's ability to utilize and apply what is disseminated (45, 58). Effective dissemination will undoubtedly affect an organization and individual's decision to adopt (27), and it is suggested that factors that facilitate dissemination will also ultimately influence the decision to adopt.

Change agents are individuals or types of agencies that may influence the decision to adopt. Change agents may include peers, opinion leaders, government agencies and organizations(59). This study identified persons and organizations who can serve as change agents to facilitate the dissemination of ICP_RHS. Change agents and champions are important actors in dissemination - they play an essential role in motivating persons to use and apply interventions which is one of the goals of dissemination (45, 60). Also, evidence shows that change agents and champions influence innovations (45, 58, 60).

Effective communication process and channels was also identified by participants in this study as potential facilitator for disseminating ICP_RHS. One goal of dissemination is to increase information reach, which can be achieved by better communication systems and multiple channels. Communication in most organizations occurs in three ways; downward (management to staff), upward (staff to management), and horizontal (between colleagues) and, when used appropriately, create an enabling environment to disseminate new ideas or new ways of doing things (61) because dissemination can occur in these ways.

Also, in their review article, Brownson et al. (62) mentioned that the use of multiple channels in dissemination such as news media, social media, meetings, workshops, and seminars would help improve dissemination efforts. Also, participants in this study identified an enabling environment that supports continuous learning to enhance clinical knowledge and practice and features of organisational culture such as good leadership, coaching, monitoring and supervision, as factors that already exist in their context that could facilitate dissemination of the innovation. An enabling learning environment provides an additional avenue for dissemination because it will reach the target audience.

Additionally, it is ideal for knowledge and information to keep flowing rather than been forgotten, and an environment that enables continuous learning will facilitate this(61). As Miller et al. (63) in their review on disseminating evidence-based practices in substance abuse treatment mentioned, providing preliminary information such as protocols alone cannot alter practice behaviour unless supplemented by opportunities for learning, coaching and supervision, which can bring providers to a high proficiency level and improve their ability to use interventions. The above-mentioned is a goal of dissemination which in turn positively influences adoption (58). Leadership, management style, support for knowledge and education, monitoring, and supervision are all factors that positively influence dissemination (58, 63).

4.3. FACTORS THAT MAY INFLUENCE ADOPTION BY FACILITY MANAGEMENT

This study's findings also show that from the perspective of health providers at the facility level and managers at the facility and district level, the decision to adopt ICP_RHS by the health

facilities which are expected to implement this innovation may be facilitated by the fact that this innovation is compatible with their existing RHS and would be simple to implement at the facility level. Other factors this study identified as facilitators of adoption of ICP_RHS include the existence of and dissemination of a national policy or directive, stakeholder perceptions that this intervention is needed, and there would be demand for ICP_RHS, as well as the availability of resources.

Also, participants perceived ICP_RHS as not complex and compatible with existing workflows and practices, and innovation that is not complex and high compatibility will easily be adopted (24, 45). Furthermore, stakeholders identified themselves with the larger organization in this context, health agencies under the ministry of health, and one of their core mandates is to implement health policies. However, some indicated there should be a motivation to do so and should be adaptable to varied contexts, especially in rural settings. Wisdom et al.(38), in their review of theories and constructs, found government policy and regulation to be positively associated with adoption, therefore, supporting that ICP_RHS as a national policy or national directive will facilitate adoption.

Additionally, organisational need and demand for innovations and readily available resources are positively associated with their willingness to adopt(23, 27). Stakeholder across all the study sites stated their need for this innovation in their district and health facilities.

The lack of resources and the possible increase in workload is a significant barrier to ICP_RHS. However not limited to, the resources identified include funding, human resource, logistics and equipment, and infrastructure (space). Various studies and reviews have also identified a lack of resources, which includes financing, human resource and infrastructure, a barrier to adoption by organisations(23, 64)

4.4. FACTORS THAT MAY INFLUENCE ADOPTION BY PROVIDERS

Training and coaching, leadership and management support, access to ICP_RHS implementation guidelines and protocols, networking and collaborations within health facilities, inter-facility networking within the healthcare system, positive perceptions and beliefs about ICP_RHS, provider attributes and self-efficacy were identified as facilitators that may influence the decision

of individuals to adopt ICP_RHS. It is also important to note some facilitators influencing the decision to adopt at the organisational level may also influence individual adoption decisions.

Again, all participants at all levels put a lot of emphasis on the need for training and coaching. Expert coaching when learning a new skill is vital, which improves performance(63) and re-orienting and coaching efforts described by some district officers will strengthen the capacity of health workers, which will facilitate adoption(27, 38, 65). Also, most health care providers indicated that having leadership support will facilitate the decision to adopt ICP_RHS, and leadership support are essential and associated with the willingness to adopt(23, 38, 64).

Access to ICP_RHS implementation guidelines and protocols and positive perceptions and beliefs about ICP_RHS will positively influence adoption. Participants emphasized that access to guidelines and protocols will further encourage their willingness to adopt. A study and review(23, 64) on adoption also identified access to guidelines and positive beliefs of interventions as facilitators of individual-level adoption.

The existence of well-established collaborations and networking activities among health facilities and enabling environment for social, formal, and informal interactions within organizations were also identified as facilitators. Both internal and external networks can serve channels through which interpersonal communications may occur, which is effective in the dissemination process(58). These various interactions serve as means of disseminating information which also influences individuals' decision to adopt (27).

Finally, the self-efficacy of health care providers to implement ICP_RHS was high. However, participants reported that with training and support, this would be further heightened; provider interest and commitment will facilitate adoption at the individual level. Individual attributes and attitudes, including their perceptions and beliefs about the innovation, are positively associated with adoption(23, 27, 64)

4.5. POLICY AND PRACTICE IMPLICATIONS

The failure to initiate, scale-up, and sustain evidence-based preventive programmes or effective practices has led to the continuous increase in the burden of diseases in low- and middle-income

countries (57), including Ghana. Also, the lack of ability and willingness to employ what is recognized to improve health leads to substantial health shortfalls and persistent inequalities(62), a bane in Ghana. The reason for these translation gaps is because evidence-based practices are not adequately and effectively disseminated to implementers(23, 24, 62). An innovation well disseminated has the potential to influence adoption(25).

According to Rogers' theory of diffusion, there are two types of adoption: the decision by an organisation to adopt and an individual's decision to adopt. It is also widely known that organisation and individual adoptions are complex processes affected significantly by contextual judgment (39). More often than not, evidence-based practices or programmes initiated and implemented in Ghana do not fit the context. The above-mentioned is the reason why this study is relevant, especially since ICP_RHS has not been initiated and implemented. Policy alone is not ample to bridge the gap between policy and practice, so there is the need for effective strategies for dissemination(36).

This study identified facilitators that could be leveraged upon and barriers that needed to be addressed by Ghanaian policymakers, programme initiators, and managers for successful dissemination and adoption of ICP_RHS. Additionally, this information will be important in the design of ICP_RHS. This study does add to the literature, especially within the African context. Studies and literature have remained more focused on the implementation phase, with less attention on the exploration/adoption phase (pre-implementation) (37). This study adds to this body of knowledge.

4.6. LIMITATIONS OF THE STUDY

This study is transferable since it was conducted in different administrative areas considering urban, peri-urban, and rural settings; however, from the perspective of multiple stakeholder levels in the inter-organisational system, it cannot be generalized. The study was conducted in just one region among the sixteen (16) regions in Ghana. Therefore, findings cannot be generalized to the rest of the country; notwithstanding, this study can provide a blueprint for policymakers and programme managers.

Finally, adoption is considered a process rather than an event (39), and this study focused only on the decision to adopt specifically at the inter-and intra-organisational levels. There is a need for

further studies on the adoption process, considering the adopter's types and characteristics. Also, this study showed that community or societal adoption, including adoption at the community or societal level and the adoption of individuals within the community or society, influences the adoption at the implementer level. Hence there is also the need to study and examine these levels mentioned above of adoption.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1. CONCLUSION

This study identified barriers and facilitators for disseminating ICP_RHS from policy level to implementers and the decision to adopt both at the organisational and individual levels. Barriers and facilitators were identified at various levels of influence which includes characteristics of ICP_RHS (e.g., simplicity and compatibility); system factors (e.g., the establishment of policy or national directive); organisational factors (e.g., training, leadership style/skill and perceived need and demand of ICP_RHS) and individual factors (e.g., leadership support, perceptions about ICP_RHS, personal attributes, and self-efficacy).

Knowledge of both barriers and facilitators is essential in tailoring strategies that address the barriers and leverages facilitators, which is more effective and can improve dissemination and adoption of ICP_RHS. This knowledge will further enhance the implementation and sustainability efforts of ICP_RHS, which is more likely to improve CC screening and precancer coverage, reduce mortality rates and the burden of disease, resulting in the improvement of health quality and equity of women in Ghana.

5.2. RECOMMENDATIONS TO POLICY IMPLEMENTERS AND RESEARCHERS

5.2.1. Dissemination Process from policy level to implementers

- Policy implementers should locate and engage individuals within the organization who can be change agents and champions, for example, district directors, deputy directors of nursing services (both at district and facility levels), health facility leaders and supervisors, doctors (gynaecology specialists), midwives/nurses (already providing screening services).
- Create ICP_RHS knowledge awareness among would-be implementers by leveraging already available intra- and inter-organisational social media platforms, for example, the use of WhatsApp platforms.
- Leverage existing intra- and inter-organisational formal and social networks to foster communication and collaborations to enhance the dissemination process

- Leverage district officers' already existing monitoring and supervisory role by equipping them with ICP_RHS-specific quality monitoring and supervision knowledge and tools.
- Leverage existing formal and social networks to serve as channels for distributing and spreading customized ICP_RHS messages and packages.

5.2.2. Enhancing the decision to adopt at both organizational and individual levels

- Engage with would-be implementers at all stakeholder levels during the design and adaptation phase of ICP_RHS. This engagement can be facilitated using surveys, suggestion boxes, discussions on district and facility social media platforms, and during clinical or family meetings(62).
- Depending on the context, a balance between facility-based and training of trainer (TOT) model for training (which would help build a large pool of competent instructors who can organize district and facility-based training and equip these trainers with all the necessary tools and logistics.) is recommended however measures need to be put in place to ensure that TOT trainers return to facilities to train.
- The Ministry of Health and Health agencies need to think about resource requirements to implement ICP_RHS and make them available to facilitate adoption.

5.2.3. Further Research

Areas of further research are exploring and access factors that influence the adoption process at both organisational and individual levels. It will also be relevant to assess other implementation outcomes, such as the acceptability and feasibility of integrating cervical cancer screening and treatment into other reproductive health services in Ghana.

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APPENDICES

Appendix A: Information Sheet and consent form for Semi-Structured Interviews

Study Title: Integration of Cervical Cancer Prevention into other Reproductive Health Services: Factors Influencing Dissemination and Adoption in the Greater Accra Region, Ghana

Principal Investigator: Helena Maame Ama Frempong, MSc Epidemiology (Implementation Science)

Good day Sir/Madam,

My name is Helena Maame Ama Frempong, a master's student at the University of the Witwatersrand, Johannesburg – South Africa. The purpose of this research study is to explore perceived barriers and facilitators to planned spread and intent to implement the integration of cervical cancer screening and treatment of pre-cancerous lesions into other reproductive services in the Greater Accra Region.

Invitation to participate

I humbly invite you to take part in this study. You have been purposively selected for this study because you are an expert in your field, and your opinion and thoughts will be very valuable. I request that you read this letter entirely and ask any questions you may have before you agree to participate in this study. Study findings will be written as a report which will be made available at the Faculty of Health Sciences Library of the University of Witwatersrand, Ghana Health Service upon request and may be presented at conferences and published in a journal. Most importantly, it will inform strategies for successfully integrating cervical cancer screening and treatment into reproductive services, which aims to improve the reach and coverage of cervical cancer screening and treatment in Ghana.

Description of the study

If you agree to participate in this study, I will ask you some questions that will take about 45 to 90 minutes of your time. The interview will be audio-recorded, and this is to ensure that information gathered is captured accurately. A copy of this letter and a signed consent form will be made

available if you agree to participate in this study. A separate concern form for the audio recording will be provided as well. After the study, a copy of the report will be sent to you for validation for quality assurance purposes.

Risks and Benefits

This is a minimal risk study, and steps have been taken to minimize any foreseeable risks. These risks, mainly being information risks, will be minimized by ensuring data security, anonymity, and confidentiality, as explained below. You may not benefit directly from this study; however, your participation will help inform strategies to help with the successful implementation of the integration of cervical cancer screening into other reproductive services which aim to improve coverage and reach of cervical cancer screening and treatment high-risk population of women which would in the long term reduce the burden of cervical cancer.

Confidentiality

Your privacy and confidentiality are very important to me. The following procedures will be used to protect confidentiality; all study records will be labelled with unique codes and stored in a secured location and locked. The audiotapes and information gathered from this study will be stored and analysed for this study; for a period not exceeding two (2) years if published and six (6) years if no publication. All electronic files will be password protected, and any computers hosting these files will also be password protected to prevent unauthorized users. Only investigators and I involved in this study will have access to passwords and confidential information. After this study, a report will be generated, and findings may be published. Information will be summarized, and you will not be identified by name or facility in any publications or presentations.

Payments

There will be no payments for participation in this study.

Rights to Refuse or Withdraw

You do not have to be in this study if you do not want to. Also, if you agree but later wish to withdraw, you are allowed to at any time which will not affect your relationship with the investigators of this study, with the Ghana Health Service or the Korle Bu Teaching Hospital.

Rights to Ask Questions and Report Concerns

I will be happy to answer any questions you may have about the study before, during or after the study (see below for my contact details). Suppose you have any further questions, queries, concerns, or complaints regarding the ethical procedures of this study. In that case, you can contact Miss Mapula Ramaila mapula.ramaila@wits.ac.za +27(0)117171234, University of Witwatersrand Human Research Ethics Committee (medical). You can also contact Nana Abena Apatu of the Ghana Health Service Ethics Review Committee on 0503539896 or ethics.research@ghsmail.org and the Research and Development of the Korle Bu Teaching hospital on 0302739510 or rdo@kbth.gov.gh

Yours sincerely,

Helena Maame Ama Frempong 2231481@students.wits.ac.za / hmafrempong@gmail.com

+27(0)655031898/ +233548238044

Supervisors Names and Contacts

Dr Mary Kawonga (mary.kawonga@wits.ac.za)

Dr Paulina Tindana (ptindana@ug.edu.gh)

Informed Consent form for Semi-Structured Interviews

Study Title: Integration of Cervical Cancer Prevention into other Reproductive Health Services: Factors Influencing Dissemination and Adoption in the Greater Accra Region, Ghana

Principal Investigator: Helena Maame Ama Frempong, MSc Epidemiology (Implementation Science)

Informed Consent

• I have been adequately informed (or I have read and understood) of the purpose, procedures, potential risks, and benefits of this study

• I have had the opportunity to ask questions and have received satisfactory answers

• I have been informed I can refuse to participate without any loss of any benefit to which I would have been entitled

• I understand that if I agree to participate, I can withdraw at any time without any issues

• I have been informed and understand that any information collected will be confidential

• I agree to participate with no coercion, and a copy of the signed consent will be given to me

Mode of Data Collection

Please, which mode of data collection do you prefer?

□ Online Meeting (Skype, Google Meet with video turned-off)

□ Telephone Interview

For Participant

Participant Name……...

Participant Signature…….

Date……../……../…….

For Study Staff

By signing below, I indicate that the participant has read and understands the details in this document and has been given a copy to the best of my knowledge.

Name of interviewer…….

Signature……...

Date ……. /……/……

Consent Form for Audio Recording for Semi-Structured Interviews

Study Title: Integration of Cervical Cancer Prevention into other Reproductive Health Services: Factors Influencing Dissemination and Adoption in the Greater Accra Region, Ghana

Principal Investigator: Helena Maame Ama Frempong, MSc Epidemiology (Implementation Science)

Dear Participant,

To capture all information adequately, I would like to request permission to record this interview. In respect of the session being audio recorded, every effort will be made to ensure confidentiality. Regarding study procedures, the recording will securely be stored and analysed for the study for a period not exceeding two (2) years if research is published and six (6) years in case of no publication.

Please, do you agree for the interview to be recorded?

□ Yes

□ No

For Participant

Participant Name……...

Participant Signature…….

Date……../……../…….

For Study Staff

By signing below, I indicate that the participant has read and understands the purpose of recording the interview to the best of my knowledge.

Name of Interviewer……

Signature……...

Date ……. /……/…….

Appendix B: Semi-structured Interview Guide 1 – Regional Officer

Biographical Information and experience

1. Please tell me about yourself

a. Gender

b. What is your age?

c. Please describe your current roles and responsibilities.

d. How long have you been in your role?

e. How long have you been working in this role in this region?

Reproductive Health Services Information

2. Please tell me how cervical cancer screening and treatment services and other RH services are run in this region?

Probes:

• How many facilities in this region offer these services

• Describe how these facilities run these services

• What other reproductive health services are provided at facilities in this region?

• How many facilities in this region offer these other RH services

• Describe how these facilities run these services

According to the national cancer control programme launched a few years ago, there is a strategy to integrate cervical cancer screening and treatment into other reproductive health services such as family planning and STI services at healthcare facilities. I would like us to talk about this strategy. I will ask you some questions about your experience with this strategy as a regional programme officer and ask your opinion of this strategy.

Process of Dissemination and adoption

Dissemination of any new initiative plays a vital role in its implementation and people's ability to use and apply. I would like us to talk about the dissemination of new policies and innovations.

3. How does your region know about new policies and evidence-based programmes from the national level?

4. How does your region typically disseminate evidence-based programmes and policies to health facilities?

5. What have you done (or what do you plan to do) to disseminate this strategy on the integration of cervical screening into other RHS?

Probes

• Can you describe what you have done/plan to do for disseminating the innovation?

• What is your role at a regional level in the process of disseminating national programmes to the facility level?

• Who else is involved in the dissemination process? What are their roles?

• Did you use/plan to use specific individuals to influence and encourage adoption of this innovation by facilities? Who? Why these particular individuals? What is their role?

6. Do you, at a regional level, know possible barriers and facilitators that may affect facilities adopting this strategy?

Probes

• How did you get this knowledge?

• What did you do/plan to do with this knowledge?

7. What steps have been taken to encourage facilities to commit to implementing this innovation?

Probes

• What have you done/plan to do?

• Who are the key individuals or groups that need to get on board with this strategy?

• How will you approach them?

• What information will you give them? What do the target audiences need to know and understand about the innovation to implement it?

• What are your communication method/s for getting the word to facilities about the strategy? How frequently will you communicate with the facilities?

• Do you foresee any challenges or difficulties in reaching the target audience?

• What capacity-building strategies for this innovation have been planned or in place?

• Describe these challenges and difficulties?

• How might you overcome them?

8. In your opinion, what should be the role of the regional office in facilitating the adoption of this strategy by health facilities in this region?

9. In your opinion, what should be the role of the health facility management in facilitating the adoption of this strategy by health workers at the facility level?

10. What do you think are barriers to health facilities deciding to apply this strategy?

11. What do you think are facilitators to health facilities deciding to apply this strategy?

Closing

Do you wish to share any other ideas or thoughts?

Thank you very much for taking the time to talk to me!

Appendix C: Semi-Structured Interview Guide 2 – District Officers

Biographical Information and experience

1. Please tell me about yourself

a. Gender

b. What is your age?

c. Please describe your current roles and responsibilities.

d. How long have you been in your role?

e. How long have you been working in this role in this district?

Reproductive Health Services Information

2. Please tell me how cervical cancer screening and treatment services and other RH services are run in this district

Probes

• How many facilities in this district offer these services

• Describe how these facilities run these services

• What other reproductive health services are provided at facilities in this district?

• How many facilities in this district offer these other RH services

• Describe how these facilities run these services

According to the national cancer control programme launched a few years ago, there is a strategy to integrate cervical cancer screening and treatment into other reproductive health services such as family planning and STI services at healthcare facilities. I would like us to talk about this strategy. I will ask you some questions about your experience with this strategy as a district health officer and ask your opinion.

Process of Dissemination and adoption

Dissemination of any new initiative plays a very important role in its implementation and people's ability to use and apply. I would like us to talk about the dissemination of new policies and innovations.

1. How does your district know about new policies and evidence-based programmes from the national level?

2. How does your district typically disseminate evidence-based programmes and policies to health facilities?

3. What have you done (or what do you plan to do) to disseminate this strategy on the integration of cervical screening into other RHS?

Probes

• Can you describe what you have done/plan to do for disseminating the innovation?

• What is your role at a district level in disseminating national programmes to the facility level?

• Who else is involved in the dissemination process? What are their roles?

• Did you use/plan to use specific individuals to influence and encourage adoption of this innovation by facilities? Who? Why these particular individuals? What is their role?

4. Do you, as a district-level, know possible barriers and facilitators that may affect facilities adopting this strategy?

Probes

• How did you get this knowledge?

• What did you do/plan to do with this knowledge?

5. What steps have been taken to encourage facilities to commit to implementing this innovation?

• What have you done/plan to do?

• Who are the key individuals or groups that need to get on board with this strategy?

• How will you approach them?

• What information will you give them? What do the target audiences need to know and understand about the innovation to implement it?

• What are your communication method/s for getting the word to facilities about the strategy? How frequently will you communicate with the facilities?

• Do you foresee any challenges or difficulties in reaching the target audience?

• What capacity-building strategies for this innovation have been planned or in place?

• Describe these challenges and difficulties?

• How might you overcome them?

6. In your opinion, what should be the role of the district office in facilitating the adoption of this strategy by health facilities in this district?

7. In your opinion, what should be the role of the health facility management in facilitating the adoption of this strategy by health workers at the facility level?

8. What do you think are barriers to health facilities deciding to apply this strategy?

9. What do you think are facilitators to health facilities deciding to apply this strategy?

Closing

Do you wish to share any other ideas or thoughts?

Thank you very much for taking the time to talk to me!

Appendix D: Semi-structured Interview Guide 2 – Facility Managers

Biographical Information and experience

1. Please tell me about yourself

    a. Gender

    b. What is your age?

    c. Please describe your current roles and responsibilities.

    d. How long have you been in your role?

    e. How long have you been working in this facility?

Current cervical screening and reproductive health services in the facility

2. How are cervical screening and treatment services provided in this health facility?

Probes:

- Is screening done every day? Or only on specific days?
- What screening tests does this facility provide?
- Which health workers provide the screening services?
- Is treatment for precancerous lesions done every day? Or only on specific days?
- What procedures does this facility provide for the treatment of precancerous lesions?
- Which health workers provide the treatment services?

3. Please tell me how reproductive services are run in this facility

Probes

- What other RHS are provided at this facility?
- Which health providers provide these other RHS?

The Ghana national cancer control programme has a strategy that says cervical cancer screening and treatment should be integrated into other reproductive health services at health facilities. I would like us to talk about this.

Dissemination and adoption

4. Are you aware of this strategy that says screening should be integrated?

Probe

- How did you get to know about it?

5. This is a national strategy. How was it presented to your health facility? Please describe the process.

Probes

• Did you receive any materials such as protocols and clinical guidelines to support health workers with implementing this integration strategy?

• How do you feel about how the strategy was presented to this facility?

• How would you have liked the strategy to be presented to the facility level?

6. To what extent do you think the management of this health facility has agreed to start applying this new strategy? Why?

Probes

• What do you think would encourage facility management to adopt this strategy?

• What do you think would prevent or discourage facility managers from adopting it?

• Would health workers in this facility agree to start applying this strategy? Why / why not?

7. Is there any particular individual who you can identify as the person who:

• Brought this strategy at your doorstep, advocated that your facility starts to apply it?

• Assisted you to understand how to apply the strategy in this facility?

Characteristics of the innovation

8. In your opinion, what benefits, or advantages does this new strategy have over what is currently being done in this facility? Can you think of any disadvantages?

9. What evidence are you aware of that shows whether or not the strategy will work?

Probes

• How does/would this evidence affect your perception of the integration strategy?

• What kind of evidence would influence you to decide to implement the strategy?

10. How complicated or easy do you think it is to integrate CC screening & treatment into RHS?

Probe

• Please explain why you say it is difficult/easy?

11. Do you know of another alternative way of providing CC screening and treatment services that you would wish to implement?

Probe

• Please describe this alternative. Why would you prefer this alternative?

Characteristics of the implementers: health facility managers

12. In your understanding, how is this integration strategy supposed to work in practice?

Probes

• Do you feel you know enough to start the integration of screening into RHS? Explain.

• What specific information about the strategy would you want to know to help you start integrating cervical screening into other RHS? Why this information?

13. Do you see a need for this integration strategy at your facility? Why or why not?

Probe

• Any feelings of anticipation? Stress? Enthusiasm? Why?

14. In your opinion, how confident are nurses/midwives in this facility about their ability to integrate screening and treatment in RHS? Explain?

15. In your opinion, how confident are doctors in this facility about their ability to integrate screening and treatment in RHS? Explain?

Inner Setting/Organizational level

16. What kinds of changes do you perceive will be needed in this facility to accommodate the integration of CC screening and treatment within RHS?

Probe

• Describe the changes (could be infrastructure, moving staff, training, resources).

• What is your opinion on the readiness of the facility to implement the strategy?

17. Describe working relationships amongst clinical staff in this facility?

Probe

• Between those doing cervical screening and those doing other RHS?

• How do you think their relationships would affect whether or not your facility can start integrating cervical screening into RHS according to the strategy?

18. How do staff in this health facility typically find out about new initiatives?

Probe

• To what extent are new initiatives or ideas embraced by health workers in your facility?

• To what extent are new initiatives embraced by the management of this facility?

Outer Setting/ System Level

19. In what ways do you think the integration of cervical screening into other RHS would affect potential health care users of this facility?

Probe

• How do you think potential service users will respond to this innovation? Explain.

20. To what extent do you network with / collaborate with colleagues or people in similar roles outside your facility?

Probe

• What kind of networking activities/collaborations? With who?

• What kinds of networking do you think would be of benefit to you with implementing the integration of cervical screening?

21. Do you know of any health facility in Ghana that has implemented this integration strategy?

Probe

• Would this information on other people's experiences influence in any way your decision to implement this innovation in your facility?

Closing

Do you wish to share any other ideas or thoughts about the strategy on the integration of cervical cancer screening and treatment into other RHS?

Thank you very much for taking the time to talk to me!

Appendix E: Semi-structured Interview Guide 4: Doctors/Nurses/Midwives

Biographical Information and experience

1. Please tell me about yourself

a. Gender; Age, Current position in this facility? How long have you been in this position?

b. Please describe your current roles and responsibilities in cervical cancer screening or other reproductive health services within this health facility.

The Ghana national cancer control programme has a strategy that says cervical cancer screening and treatment should be integrated into other reproductive health services at health facilities. I would like us to talk about this.

Dissemination and adoption

2. Are you aware of this strategy?

Probe

How did you get to know about it?

3. This is a national strategy. How was it presented to health facilities? Please describe the process.

Probes

• Did you receive any materials such as protocols, clinical guidelines that can support the implementation of the integration strategy?

• How do you feel about how it was presented?

• How would you have liked the strategy to be presented to the facility level?

4. To what extent do you think there is a buy-in of this new strategy from health workers? Why?

Probes

• What do you think would encourage health workers to buy-in?

• What do you think would prevent or discourage health worker buy-in?

5. Is there a particular individual who: a) brought this strategy to your doorstep, advocated that you use it, b) assisted you in understanding how to apply it in this facility?

Characteristics of the innovation

6. In your opinion, what benefits or advantages does this new strategy have over what's currently being done? Can you think of any disadvantages?

7. What evidence are you aware of that shows whether or not the strategy will work?

Probes

• How does/would this evidence affect your perception of the integration strategy?

• What kind of evidence would influence you to decide to implement the strategy?

8. How complicated or easy do you think it is to integrate CC screening & treatment into RHS?

Probe

• Please explain why you say it is difficult/easy?

9. Do you know of another alternative way of providing CC screening and treatment services that you would wish to implement?

Probe

• Please describe this alternative. Why would you prefer this alternative?

Characteristics of the implementers: Doctors

10. In your understanding, how is this integration strategy supposed to work in practice?

Probe

• Do you feel you know enough to start the integration of screening into RHS? Explain.

• What specific information about the strategy would you want to know to help you start integrating cervical screening into other RHS? Why this information?

11. Do you see a need for this integration strategy at your facility? Why or why not?

Probe

• Any feelings of anticipation? Stress? Enthusiasm? Why?

12. How confident are you that you will be able to implement the integrated screening strategy?

Probe

• What gives you that level of confidence (or lack of confidence)?

• What do you think is needed to give you the confidence to start implementing the strategy?

13. How confident do you think other colleagues in your facility will feel about implementing this strategy?

Probe

• What do you think gives them that level of confidence (or lack of confidence)?

Inner Setting/Organizational level

14. What kinds of changes do you perceive will be needed in this facility to accommodate the integration of CC screening within RHS?

Probes

• Describe the changes (could be infrastructure, moving staff, training, resources).

• What is your opinion on the readiness of the facility to implement the strategy?

15. Describe your working relationships amongst colleagues in this facility?

Probes

• Between those doing cervical screening and those doing other RHS?

• How would these relationships affect whether or not to apply the strategy integrating?

16. How do staff in this health facility typically find out about new initiatives?

Probes

• To what extent are new initiatives or ideas embraced by health workers in your facility?

• To what extent are new initiatives embraced by the management of this facility?

Outer Setting/ System Level

17. In what ways do you think this strategy would affect health care users of this facility?

Probe

• How do you think potential service users will respond to this innovation? Explain.

18. To what extent do you network with / collaborate with colleagues or people in similar roles outside your facility?

Probe

• What kind of networking activities/collaborations? With who?

• What kinds of networking do you think would be of benefit to you with implementing the integration of cervical screening?

19. Do you know of any health facility in Ghana that has implemented this integration strategy?

Probe

• Would this information on other people's experiences influence in any way your decision to implement this innovation in your facility?

Closing

Do you wish to share any other ideas or thoughts about the strategy on the integration of cervical cancer screening and treatment into other RHS?

Thank you very much for taking the time to talk to me!

Appendix F: Code Book

ICP_RHS_MSc_Research Project

Codes\\Themes and Codes

Name	Description
Characteristics of ICP_RHS	Aspects of an intervention that may impact successful dissemination and adoption
Cost of ICP_RHS	Costs of the intervention and costs associated with implementing the intervention, including investment, supply, and opportunity costs
Evidence Strength and Quality of ICP_RHS	Stakeholders' perceptions of the quality and validity of evidence supporting the belief that the intervention will have desired outcomes
ICP_RHS Complexity and Packaging	Perceived difficulty of implementation, reflected by duration, scope, radicalness, disruptiveness, centrality, and intricacy and number of steps required to implement
Relative Advantage of ICP_RHS	Stakeholders' perception of the advantage of implementing the intervention versus an alternative solution
Individual Characteristics	The individuals responsible for carrying out the intervention or otherwise related to the intervention, their agency, and their relationships to each other and the intervention
Knowledge, Perceptions & Beliefs about the Intervention	Individuals' attitudes toward and the value placed on the intervention as well as familiarity with facts, truths, and principles related to the intervention
Personal Attributes and Self Efficacy	A broad construct includes other personal traits such as tolerance of ambiguity, intellectual ability, motivation, values, competence, capacity, and learning style.
Inner Setting	Characteristics of the implementing organization (structural, political and cultural context) that may influence dissemination and adoption

Name	Description
Implementation Climate	
Compatibility	The degree of tangible fit between meaning and values attached to the intervention by involved individuals aligns with individuals' norms, values, perceived risks and needs, and how the intervention fits existing workflows and systems.
Learning Climate	A climate in which: 1. Leaders express their fallibility and need for team members' assistance and input; 2. Team members feel essential, valued, and knowledgeable partners in the change process; 3. Individuals feel psychologically safe to try new methods
Relative Priority and Tension for Change	Individuals' shared perception of the importance of the implementation within the organization
Leadership	Perceptions about attitudes, attributes and skills of leaders and style of leadership
Networks and Communications	The nature and quality of webs of social networks and the nature and quality of formal and informal communications within an organization
Organizational Culture	Norms, values, and basic assumptions of a given organization
Readiness for Implementation	Tangible and immediate indicators of organizational commitment to its decision to implement an intervention
Knowledge and information	Ease of access to digestible information and knowledge about the intervention and how to incorporate it into work tasks
Needs and Resources	The level of resources dedicated for implementation and ongoing operations, including money, training, education, physical space, and time
Training and Technical Assistance	The access to training and provision of technical assistance, supervision, coaching

Name	Description
Outer Setting	The political and social context and other external influences that may influence dissemination and adoption
Cosmopolitanism	The degree to which an organization is networked with other external organizations.
External Environment and Influence	The degree to which the external environment, such as society and communities' influences and context factors, may have on innovation
External Policy and Incentives	A broad construct that includes external strategies to spread interventions, including policy and regulations (governmental or other central entity), external mandates, recommendations and guidelines, pay-for-performance, collaboratives, and public or benchmark reporting
Patient Needs and Resources	The extent to which patient needs, as well as barriers and facilitators to meet those needs, are accurately known and prioritized by the organization
Process of Dissemination	The active process through which the desired changes are reached
Awareness	The degree to which individuals and organizations are aware of the innovation
Change Agents and Champions	Individuals who formally influence or facilitate intervention decisions in a desirable direction
Communication Process, Channels and Presentation	Represent sources of information and influence used for dissemination or learn about and access innovation

Appendix G: Ethics clearance certificates

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

R14/49 Miss Helena Maame Ama Frempong

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M1911147

NAME: (Principal Investigator)	Miss Helena Maame Ama Frempong
DEPARTMENT:	Epidemiology and Biostatistics Greater Accra Region, Ghana Health Facilities and Health Department
PROJECT TITLE:	Integration of Cervical Cancer Prevention into other Reproductive Health Services: Factors Influencing Dissemination and Adoption in the Greater Accra Region, Ghana
DATE CONSIDERED:	29/11/2019
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Dr Mary Kawonga
APPROVED BY:	Dr CB Penny, Chairperson, HREC (Medical)
DATE OF APPROVAL:	20/02/2020

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary on the Third Floor, Faculty of Health Sciences, Phillip Tobias Building, 29 Princess of Wales Terrace, Parktown, 2193, University of the Witwatersrand. I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. In this case, the study was initially reviewed in November and will therefore be due in the month of November each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature

Date **24-02-2020**

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

08 July 2020

Miss Helena Maame Ama Frempong
P.O. Box AO 689
Abossey
Okai – Accra
Ghana

Sent by email to: 2231481@students.wits.ac.za; hmafrempong@gmail.com

Dear Miss Helena Maame Ama Frempong

Re: **Protocol Ref No:** M1911147
Protocol Title: Integration of Cervical Cancer Prevention into other Reproductive Health Services: Factors Influencing Dissemination and Adoption in the Greater Accra Region, Ghana
Principal Investigator: Miss Helena Maame Ama Frempong
Protocol Amendment: Request to modify data collection methodology and add a supervisor with qualitative research expertise

This letter serves to confirm that the Chairman of the Human Research Ethics Committee (Medical) has approved the amendments for the abovementioned protocol, as detailed in your letter, dated 11 June 2020.

Thank you for keeping us informed and updated.

Yours Sincerely,

UNIVERSITY OF THE WITWATERSRAND
OFFICE OF THE DEPUTY VICE CHANCELLOR RESEARCH
08 JUL 2020
RESEARCH OFFICE HREC (Medical)
JOHANNESBURG

Miss Mapula Ramaila
Administrative Officer
Human Research Ethics Committee (Medical)

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

In case of reply the number and date of this Letter should be quoted.

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
GPS Address: GA-050-3303
Mob: +233-50-3539896
Tel: +233-302-681109
Fax + 233-302-685424
Email: ethics.research@ghsmail.org

*MyRef. GHS/RDD/ERC/Admin/App*120/125
Your Ref. No.

26th February, 2019

Helena Maame Ama Frempong
University of the Witwatersrand
Johannesburg-South Africa

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol.

GHS-ERC Number	**GHS-ERC 019/01/20**
Project Title	Integration of Cervical Cancer Prevention into other Reproductive Health Services: Factors Influencing Dissemination and Adoption in the Greater Accra Region, Ghana
Approval Date	26th February, 2020
Expiry Date	25th February, 2021
GHS-ERC Decision	**Approved**

This approval requires the following from the Principal Investigator

- Submission of yearly progress report of the study to the Ethics Review Committee (ERC)
- Renewal of ethical approval if the study lasts for more than 12 months,
- Reporting of all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.
- Submission of a final report after completion of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings.
- Please note that any modification of the study without ERC approval of the amendment is invalid.

The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

Kindly quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....
Dr. Cynthia Bannerman
(GHS-ERCCHAIRPERSON)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra

In case of reply the number
And the date of this
Letter should be quoted

My Ref. No.....
Your Ref. No.....

KORLE BU TEACHING HOSPITAL
P. O. BOX KB 77,
KORLE BU, ACCRA.

Tel: +233 302 667759/673034-6
Fax: +233 302 667759
Email: Info@kbth.gov.gh
pr@kbth.gov.gh
Website: www.kbth.gov.gh

11th June, 2020

HELENA MAAME AMA FREMPONG
UNIVERSITY OF THE WITWATERSRAND
JOHANNESBURG-SOUTH AFRICA

INSTITUTIONAL APPROVAL: KORLE BU TEACHING HOSPITAL-SCIENTIFIC AND TECHNICAL COMMITTEE/INSTITUTIONAL REVIEW BOARD (KBTH-STC/IRB/00016/2020

Following approval of your study entitled: "Integration of Cervical Cancer Prevention into Other Reproduction Health Services" by the Korle Bu Teaching Hospital-Scientific and Technical Committee/Institutional Review Board.

I am pleased to inform you that institutional approval has been granted for the conduct of your study in Korle Bu Teaching Hospital.

Please contact the Head of Department to discuss the commencement date of the study.

Please note that, this institutional approval is rendered invalid if the terms of the Institutional Reviewed Board/Scientific and Technical Committee approval are violated.

Sincere regards,

Dr. Harry Akoto
Dep. Director of Medical Affairs
For: Director of Medical Affairs

Cc: The Chief Executive
Korle Bu